```
$%^Dialog;HighlightOn=%%%;HighlightOff=%%%;
Trying 9158046...Open

box200> enter system id

Logging in to Dialog


DIALOG INFORMATION SERVICES
PLEASE LOGON:
********
IALOG Invalid account number

DIALOG INFORMATION SERVICES
PLEASE LOGON:
********
ENTER PASSWORD:
x050fjxh
********
Welcome to DIALOG

Dialog level 98.03.26D

Last logoff: 19apr98 15:57:55
Logon file001 22apr98 17:54:47
ANNOUNCEMENT **** ANNOUNCEMENT **** ANNOUNCEMENT
NEW
***Directory of Chemical Producers - Products (File 363)
***Directory of Chemical Producers - Companies (File 364)
***IPO MAVEN (File 754)
***BOSTON HERALD (File 392)
***TRADEMARKSCAN(R)-Spain (File 228)
***ESPICOM Pharmaceutical and Medical Company Profiles (File 510)
***ESPICOM Country Health Care Reports (File 511)
***Healthcare Organizations (File 168)
***Sarasota Herald Tribune (File 980)
                ***
RELOADED
***NTIS (File 6)
***PSYCInfo (File 11)
***1998 MeSH Headings available in Medline (Files 154,155),
  Aidsline (File 157) and Healthstar (File 151)
                ***
REMOVED
***Kirk-Othmer Encyclopedia of Chemical Technology (File 302)
                ***
UPDATE '98
***Update '98 will be held April 15-17 in Philadelphia. Register now!
  Pick up a registration form at http://crossroads.dialog.com or
  request ASAF document 5104 at 1-650-254-8246 or 1-800-496-4470.
                ***

PRICE CHANGES
***Prices have been adjusted in a number of Dialog databases
  as of January 1. Updated price list is available via
  ASAF (document numbers 5008-5011) and on the Web at
  http://phoenix.dialog.com/products/dialog/dial_pricing.html.

   >>> Enter BEGIN HOMEBASE for Dialog Announcements <<<
   >>>  of new databases, price changes, etc.     <<<
   >>>  Announcements last updated  17Apr98      <<<
* * * As of March 23,1998, SRC1, INFO, and EIDDS will no longer be part
* * * of the Dialorder service. You may choose another supplier or go
* * * to http://uncweb.carl.org/ to find out about UnCover's complete
* * * document ordering service.
* * *

File   1:ERIC  1966-1998/Feb
     (c) format only 1998 The Dialog Corporation

    Set  Items  Description
    ---  -----  ----------
? b 410

     22apr98 17:54:52 User233832 Session D87.1
        $0.03   0.001 Hrs File1
    $0.03  Estimated cost File1
    $0.03  Estimated cost this search
    $0.03  Estimated total session cost   0.001 Hrs.

File 410:Chronolog(R)  1981-1998/Mar
     (c) 1998 The Dialog Corporation plc

    Set  Items  Description
    ---  -----  ----------
? set hi %%%;set hi %%%

HILIGHT set on as '%%%'%%%
%%%HILIGHT set on as '%%%'
? begin 411

     22apr98 17:55:08 User233832 Session D87.2
        $0.00   0.004 Hrs File410
    $0.00  Estimated cost File410
    $0.00  Estimated cost this search
    $0.03  Estimated total session cost   0.005 Hrs.
File 411:DIALINDEX(R)

DIALINDEX(R)
  (c) 1998 The Dialog Corporation plc

*** DIALINDEX search results display in an abbreviated ***
*** format unless you enter the SET DETAIL ON command. ***
? set files allchem allmed

  You have 174 files in your file list.
  (To see banners, use SHOW FILES command)
? s (combinatorial or librar### or mixture# or mix) (4n) (purin###### or pyrimidin####)


Your SELECT statement is:
  s (combinatorial or librar### or mixture# or mix) (4n) (purin###### or
pyrimidin####)

      Items   File
      -----   ----
    Examined  50 files
    Examined 100 files
    Examined 150 files

  No files have one or more items; file list includes 174 files.

? s (combinatorial or librar### or mixture# or mix) (and) (purin###### or
pyrimidin####)(4n) (analog???? or adduct? ?)


Your SELECT statement is:
  s (combinatorial or librar### or mixture# or mix) (and) (purin###### or
pyrimidin####)(4n) (analog???? or adduct? ?)

      Items   File
      -----   ----
>>>Invalid syntax
? s (combinatorial or librar### or mixture# or mix) (and (purin###### or
pyrimidin####)(4n) (analog???? or adduct? ?)


Your SELECT statement is:
  s (combinatorial or librar### or mixture# or mix) (and (purin###### or
pyrimidin####)(4n) (analog???? or adduct? ?)

      Items   File
      -----   ----
>>>Invalid syntax
? s (combinatorial or librar### or mixture# or mix) and (purin###### or
pyrimidin####)(4n) (analog???? or adduct? ?)


Your SELECT statement is:
  s (combinatorial or librar### or mixture# or mix) and (purin###### or
pyrimidin####)(4n) (analog???? or adduct? ?)

      Items   File
      -----   ----
    Examined  50 files
    Examined 100 files
    Examined 150 files

  No files have one or more items; file list includes 174 files.

? s (combinatorial or librar### or mixture# or mix) and (purin###### or
pyrimidin####)(and) (analog???? or adduct? ?)


Your SELECT statement is:
  s (combinatorial or librar### or mixture# or mix) and (purin###### or
pyrimidin####)(and) (analog???? or adduct? ?)

      Items   File
      -----   ----
>>>Invalid syntax
? s (combinatorial or librar### or mixture# or mix) and (purin###### or
pyrimidin####)and (analog???? or adduct? ?)


Your SELECT statement is:
  s (combinatorial or librar### or mixture# or mix) and (purin###### or
pyrimidin####)and (analog???? or adduct? ?)

      Items   File
      -----   ----
    Examined  50 files
    Examined 100 files
    Examined 150 files

  No files have one or more items; file list includes 174 files.

? s (combinatorial or librar### or mixture# or mix) and (purin###### or pyrimidin####)


Your SELECT statement is:
  s (combinatorial or librar### or mixture# or mix) and (purin###### or
pyrimidin####)

      Items   File
      -----   ----
    Examined  50 files
    Examined 100 files
    Examined 150 files

  No files have one or more items; file list includes 174 files.

? s (DNA or oligo nucleotide? ? or oligonutleotide? ? or RNA) and (purin###### or
pyrimidin####)and (analog???? or adduct? ?)
```

Your SELECT statement is:
s (DNA or oligo nucleotide? ? or oligonutleotide? ? or RNA) and (purin###### or pyrimidin####)and (analog???? or adduct? ?)

Items File

Examined 50 files
Examined 100 files
Examined 150 files

No files have one or more items; file list includes 174 files.

? s (DNA or oligo nucleotide? ? or oligonutleotide? ? or RNA) and (purin###### or pyrimidin#### or base? ?)and (analog???? or adduct? ?)

Your SELECT statement is:
s (DNA or oligo nucleotide? ? or oligonutleotide? ? or RNA) and (purin###### or pyrimidin#### or base? ?)and (analog???? or adduct? ?)

Items File
71 2: INSPEC_1969-1998/Apr W3
3681 5: BIOSIS PREVIEWS(R)_1969-1998/Apr W4
133 6: NTIS_64-1998/May W3
54 8: Ei Compendex(R)_1970-1998/May W4
70 9: Business & Industry(R) Jul_1994-1998/Apr 22
<-----User Break----->
u!
? s (DNA or oligo nucleotide? ? or oligonutleotide? ? or RNA) and (base? ?)and (analog???? or adduct? ?) and (combinatorial or librar#### or mix or mixtrur###)

Your SELECT statement is:
s (DNA or oligo nucleotide? ? or oligonutleotide? ? or RNA) and (base? ?)and (analog???? or adduct? ?) and (combinatorial or librar#### or mix or mixtrur###)

Items File
12 5: BIOSIS PREVIEWS(R)_1969-1998/Apr W4
7 9: Business & Industry(R) Jul_1994-1998/Apr 22
34 16: IAC PROMT(R)_1972-1998/Apr 22
2 35: Dissertation Abstracts Online_1861-1998/Apr
4 71: ELSEVIER BIOBASE_1994-1998/Apr W3
14 73: EMBASE_1974-1998/Apr W3
6 76: Life Sciences Collection_1982-1998/Feb
2 103: Energy SciTec_1974-1998/Mar B2
4 129: PHIND(Archival)_1980-1998/Apr W3
3 144: Pascal_1973-1998/Mar
57 148: IAC Trade & Industry Database_1976-1998/Apr 22
36 155: MEDLINE(R)_1966-1998/Jun W3
22 156: Toxline(R)_1965-1998/Feb
Examined 50 files
1 158: DIOGENES(R)_1976-1998/Apr W3
23 159: Cancerlit_1975-1998/Apr
3 161: Occ.Saf.& Hth._1973-1998/Q1
1 172: EMBASE Alert_1998/Apr W4
1 192: Industry Trends & Anal._1997/Jun
9 211: IAC Newsearch(TM)_1997-1998/Apr 22
1 229: Drug Info._1997/97Q1
4 332: Material Safety Data Sheets - OHS_1998/Q1
792 348: EUROPEAN PATENTS_1978-1998/Apr W16
5 351: DERWENT WPI_1963-1998/UD=9815;UP=9812;UM=9810
1 357: Derwent Biotechnology Abs_1982-1998/May B1
26 370: Science_1996-1998/Feb W4
Examined 100 files
11 390: Beilstein Online_
73 434: Scisearch(R) Cited Ref Sci_1974-1998/Apr W2
1 441: ESPICOM Pharm&Med DEVICE NEWS_1998/Apr 22
14 442: AMA Journals_1982-1998/Apr W3
5 444: New England Journal of Med._1985-1998/Apr W3
8 449: IMSWorld Company Profiles_1992-1998/Mar
1 452: Drug Data Report_1992-1998/Apr
1 453: Drugs of the Future_1990-1998/Apr
3 457: The Lancet_1986-1998/Apr W1
2 461: USP DI(R) Vol. I_1997/Q4
2 624: McGraw-Hill Publications_1985-1998/Apr 16
18 652: US Patents Fulltext_1971-1979
143 653: US Pat.Fulltext_1980-1989
Processing
1984 654: US PAT.FULL._1990-1998/Apr 14
42 669: Federal Register_1988-1998/Apr 22
1 763: Freedonia Market Res._1990-1998/Apr
1 764: BCC Market Research_1989-1998/Apr
1 10: AGRICOLA_70-1998/Mar
1 12: IAC Industry Express (TM)_1995-1998/Apr 21
1 50: CAB Abstracts_1972-1998/Mar
11 55: BIOSIS PREVIEWS(R)_1985-1998/Apr W4
13 72: EMBASE_1985-1998/Apr W3
29 98: General Sci Abs/Full-Text_1984-1998/Mar
93 149: IAC(SM)Health&Wellness DB(SM)_1976-1998/Apr W3
4 151: HealthSTAR_1975-1998/May
Examined 150 files
6 265: FEDRIP_1998/Feb
2 285: BioBusiness(R)_1985-1998/Apr W1
96 440: Current Contents Search(R)_1990-1998/Apr W3
2 635: Business Dateline(R)_1985-1998/Apr W3
29 636: IAC Newsletter DB(TM)_1987-1998/Apr 22
11 649: IAC NEWSWIRE ASAP(TM)_1998/Apr 22
6 660: Federal News Service_1991-1998/Apr 21
1 912: Derwent Drug File_1983-1998/Apr W2

58 files have one or more items; file list includes 174 files.

? save temp base

Temp SearchSave "TDBASE" stored
? rf

Your last SELECT statement was:
S (DNA OR OLIGO NUCLEOTIDE? ? OR OLIGONUTLEOTIDE? ? OR RNA) AND (BASE? -
?)AND (ANALOG???? OR ADDUCT? ?) AND (COMBINATORIAL OR LIBRAR#### OR MIX OR
MIXTRUR###)
Ref Items File
N1 1984 654: US PAT.FULL._1990-1998/Apr 14
N2 792 348: EUROPEAN PATENTS_1978-1998/Apr W16
N3 143 653: US Pat.Fulltext_1980-1989
N4 96 440: Current Contents Search(R)_1990-1998/Apr W3
N5 93 149: IAC(SM)Health&Wellness DB(SM)_1976-1998/Apr W3
N6 73 434: Scisearch(R) Cited Ref Sci_1974-1998/Apr W2
N7 57 148: IAC Trade & Industry Database_1976-1998/Apr 22
N8 42 669: Federal Register_1988-1998/Apr 22
N9 36 155: MEDLINE(R)_1966-1998/Jun W3
N10 34 16: IAC PROMT(R)_1972-1998/Apr 22
58 files have one or more items; file list includes 174 files.

- Enter P or PAGE for more -
? p

Your last SELECT statement was:
S (DNA OR OLIGO NUCLEOTIDE? ? OR OLIGONUTLEOTIDE? ? OR RNA) AND (BASE? -
?)AND (ANALOG???? OR ADDUCT? ?) AND (COMBINATORIAL OR LIBRAR#### OR MIX OR
MIXTRUR###)
Ref Items File
N11 29 98: General Sci Abs/Full-Text_1984-1998/Mar
N12 29 636: IAC Newsletter DB(TM)_1987-1998/Apr 22
N13 26 370: Science_1996-1998/Feb W4
N14 23 159: Cancerlit_1975-1998/Apr
N15 22 156: Toxline(R)_1965-1998/Feb
N16 18 652: US Patents Fulltext_1971-1979
N17 14 73: EMBASE_1974-1998/Apr W3
N18 14 442: AMA Journals_1982-1998/Apr W3
N19 13 72: EMBASE_1985-1998/Apr W3
N20 12 5: BIOSIS PREVIEWS(R)_1969-1998/Apr W4
58 files have one or more items; file list includes 174 files.

- Enter P or PAGE for more -
? p

Your last SELECT statement was:
S (DNA OR OLIGO NUCLEOTIDE? ? OR OLIGONUTLEOTIDE? ? OR RNA) AND (BASE? -
?)AND (ANALOG???? OR ADDUCT? ?) AND (COMBINATORIAL OR LIBRAR#### OR MIX OR
MIXTRUR###)
Ref Items File
N21 11 390: Beilstein Online_
N22 11 55: BIOSIS PREVIEWS(R)_1985-1998/Apr W4
N23 11 649: IAC NEWSWIRE ASAP(TM)_1998/Apr 22
N24 9 211: IAC Newsearch(TM)_1997-1998/Apr 22
N25 8 449: IMSWorld Company Profiles_1992-1998/Mar
N26 7 9: Business & Industry(R) Jul_1994-1998/Apr 22
N27 6 76: Life Sciences Collection_1982-1998/Feb
N28 6 265: FEDRIP_1998/Feb
N29 6 660: Federal News Service_1991-1998/Apr 21
N30 5 351: DERWENT WPI_1963-1998/UD=9815;UP=9812;UM=9810
58 files have one or more items; file list includes 174 files.

- Enter P or PAGE for more -
? begin n4-n27

22apr98 18:18:06 User233832 Session D87.3
$11.49 0.383 Hrs File411
$11.49 Estimated cost File411
$11.49 Estimated cost this search
$11.52 Estimated total session cost 0.389 Hrs.

SYSTEM:OS - DIALOG OneSearch
File 440:Current Contents Search(R) 1990-1998/Apr W3
(c) 1998 Inst for Sci Info
File 149:IAC(SM)Health&Wellness DB(SM) 1976-1998/Apr W3
(c) 1998 Info Access Co
File 434:Scisearch(R) Cited Ref Sci 1974-1998/Apr W2
(c) 1998 Inst for Sci Info
File 148:IAC Trade & Industry Database 1976-1998/Apr 22
(c) 1998 Info Access Co
File 669:Federal Register 1988-1998/Apr 22
(c) 1998 The Dialog Corporation
File 155:MEDLINE(R) 1966-1998/Jun W3
(c) format only 1998 Dialog Corporation
File 16:IAC PROMT(R) 1972-1998/Apr 22
(c) 1998 Information Access Co.
File 98:General Sci Abs/Full-Text 1984-1998/Mar
(c) 1998 The HW Wilson Co.
File 636:IAC Newsletter DB(TM) 1987-1998/Apr 22
(c) 1998 Information Access Co.
*File 636: Company names are now searchable using /CO and CO=.
File 370:Science 1996-1998/Feb W4
(c) 1998 AAAS
File 159:Cancerlit 1975-1998/Apr

```
      (c) format only 1998 Dialog Corporation
*File 159: When searching on DT= please see HELP NEWS 159.
      1998 reload coming soon. Accession numbers will change.
 File 156:Toxline(R) 1965-1998/Feb
      (c) format only 1998 The Dialog Corporation
 File 652:US Patents Fulltext 1971-1979
      (c) format only 1998 The Dialog Corp.
*File 652: Reassignment data now current through 03/24/98
Reexamination, extension, expiration, reinstatement updated weekly.
 File 73:EMBASE 1974-1998/Apr W3
      (c) 1998 Elsevier Science B.V.
 File 442:AMA Journals 1982-1998/Apr W3
      (c)1998 Amer Med Assn -FARS/DARS apply
 File 72:EMBASE 1985-1998/Apr W3
      (c) 1998 Elsevier Science B.V.
 File 5:BIOSIS PREVIEWS(R) 1969-1998/Apr W4
      (c) 1998 BIOSIS
 File 390:Beilstein Online
      (c) Beilstein Chemiedaten und Software GmbH
*File 390: IMPORTANT - Price based on output. See HELP RATES 390.
 File 55:BIOSIS PREVIEWS(R) 1985-1998/Apr W4
      (c) 1998 BIOSIS
 File 649:IAC NEWSWIRE ASAP(TM) 1998/Apr 22
      (c) 1998 Information Access Co.
 File 211:IAC Newsearch(TM) 1997-1998/Apr 22
      (c) 1998 Info. Access Co.
 File 449:IMSWorld Company Profiles 1992-1998/Mar
      (c) 1998 IMSWorld Publ. Ltd.
 File 9:Business & Industry(R) Jul 1994-1998/Apr 22
      (c) 1998 Resp. DB Svcs.
 File 76:Life Sciences Collection 1982-1998/Feb
      (c) 1998 Cambridge Sci Abs

    Set Items Description
    --- ----- ---------
? exs

Executing TDBASE
HILIGHT set on as '%'
Processing
Processed 10 of 24 files ...
Processing
Processing
Processed 20 of 24 files ...
Completed processing all files
      3178425 DNA
            1 OLIGO NUCLEOTIDE? ?
            0 OLIGONUTLEOTIDE? ?
      1621169 RNA
      8707774 BASE? ?
      1667149 ANALOG????
       156941 ADDUCT? ?
        36945 COMBINATORIAL
            0 LIBRAR####
       372908 MIX
            0 MIXTRUR###
    S1    694 (DNA OR OLIGO NUCLEOTIDE? ? OR OLIGONUTLEOTIDE? ? OR
RNA)
              AND (BASE? ?)AND (ANALOG???? OR ADDUCT? ?) AND
              (COMBINATORIAL OR LIBRAR#### OR MIX OR MIXTRUR###)
? rd

>>>Duplicate detection is not supported for File 652.
>>>Duplicate detection is not supported for File 390.
>>>Duplicate detection is not supported for File 449.

>>>Records from unsupported files will be retained in the RD set.
>>>Record 440:9343517 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:9315865 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:9279623 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:9243828 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:9202125 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:9134716 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:9096988 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:9055921 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:9046094 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:8984992 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:8970172 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:8857377 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:8716505 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:8710995 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:8705408 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:8696652 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:8684670 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:8597085 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:8381802 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:8337900 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:8219302 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:8121467 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:8049363 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:8040533 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:7848069 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:7840209 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:7799587 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:7720042 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:7698047 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:7691105 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:7674424 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:7637587 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:7623361 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:7609779 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:7586859 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:7556390 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:7515126 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:7447845 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:7382412 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:7343493 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:7331180 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:7281950 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:7263846 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:7234468 ignored; incomplete bibliographic data, not retained
in RD set
...examined 50 records (50)
>>>Record 440:7216779 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:7077045 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:7072209 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:7025712 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:6945815 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:6879475 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:6879251 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:6869881 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:6835438 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:6726530 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:6726331 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:6641423 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:6550069 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:6531679 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:6505845 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:6455801 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:6285279 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:6229784 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:6215872 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:6118278 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:5947092 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:5775375 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:5539086 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:5436685 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:5420245 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:5296556 ignored; incomplete bibliographic data, not retained
in RD set
```

```
>>>Record 440:5255617 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:5140105 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:5129148 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:5104699 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:4944262 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:4937638 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:4860368 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:4760620 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:4575010 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:4568926 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:4294379 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:4268729 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:3744714 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:3613012 ignored; incomplete bibliographic data, not retained
in RD set
>>>Record 440:2186573 ignored; incomplete bibliographic data, not retained
in RD set
...examined 50 records (100)
...examined 50 records (150)
...examined 50 records (200)
...examined 50 records (250)
...examined 50 records (300)
...examined 50 records (350)
...examined 50 records (400)
...examined 50 records (450)
...examined 50 records (500)
...examined 50 records (550)
>>>Record 442:102386 ignored; incomplete bibliographic data, not retained -
in RD set
...examined 50 records (600)
>>>Record 442:82559 ignored; incomplete bibliographic data, not retained in
RD set
...examined 50 records (650)
...completed examining records
    S2    430 RD (unique items)
? s (DNA or oligo nucleotide? ? or oligonutleotide? ? or RNA) (5N) (base? ?)and
(analog???? or adduct? ?) and(combinatorial or librar#### or mix or mixtrur###)

<------User Break------>
u!
? s s2 and ((DNA or oligo nucleotide? ? or oligonutleotide? ? or RNA) (5N) (base? ?)and
(analog???? or adduct? ?) and(combinatorial or librar#### or mix or mixtrur###))

Processing
Processed 10 of 24 files ...
Processing
Processing
Processed 20 of 24 files ...
Completed processing all files
        430 S2
    3178425 DNA
          1 OLIGO NUCLEOTIDE? ?
          0 OLIGONUTLEOTIDE? ?
    1621169 RNA
    8707774 BASE? ?
     224437 (((DNA OR OLIGO NUCLEOTIDE? ?) OR OLIGONUTLEOTIDE? ?)
OR
            RNA)(5N)BASE? ?
    1667149 ANALOG????
     156941 ADDUCT? ?
      36945 COMBINATORIAL
          0 LIBRAR####
     372908 MIX
          0 MIXTRUR###
    S3    84 S2 AND ((DNA OR OLIGO NUCLEOTIDE? ? OR
OLIGONUTLEOTIDE? ?
            OR RNA) (5N) (BASE? ?)AND (ANALOG???? OR ADDUCT? ?)
            AND(COMBINATORIAL OR LIBRAR#### OR MIX OR MIXTRUR###))
? s s3 and combinatorial or librar####

         84 S3
      36945 COMBINATORIAL
          0 LIBRAR####
    S4    46 S3 AND COMBINATORIAL OR LIBRAR####
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? d 3,ab,k 1-3

>>>No matching display code(s) found in file(s): 390, 449, 636, 669

4 3,AB,K 1    (Item 1 from file: 440)
DIALOG(R)File 440:Current Contents Search(R)
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09310666  GENUINE ARTICLE#: ZA977  NUMBER OF REFERENCES: 51
TITLE: A mechanism-%based%, solution-phase method for screening
  %combinatorial% mixtures of potential platinum anticancer drugs
AUTHOR(S): Sandman KE; Fuhrmann P; Lippard SJ
CORPORATE SOURCE: MIT,DEPT CHEM/CAMBRIDGE//MA/02139 (REPRINT);
MIT,DEPT
  CHEM CAMBRIDGE MA 02139
PUBLICATION TYPE: JOURNAL
PUBLICATION: JOURNAL OF BIOLOGICAL INORGANIC CHEMISTRY, 1998, V3,
N1 (FEB)
, P74-80
PUBLISHER: SPRINGER VERLAG, 175 FIFTH AVE, NEW YORK, NY 10010
ISSN: 0949-8257
LANGUAGE: English  DOCUMENT TYPE: ARTICLE
ABSTRACT: We report a new, mechanism-%based% approach to the screening of
  pools of potential platinum antitumor drugs. A platinum complex of
  L-lysine, [Pt(Lys)Cl-2] or Kplatin, was selected from mixtures of
  platinum-amino acid compounds %based% on the ability of its %DNA%
  %adducts% to bind HMG1 in a gel mobility shift assay. Kplatin, unlike
  most other platinum antitumor drug candidates, is an (N,O)-chelated
  complex which binds %DNA% forming two isomeric 1,2-d(GpG) intrastrand
  %DNA% cross-links. Kplatin-modified %DNA% is spe cifically recognized
  by HMG1, HMG1 domain B, and testis-specific HMG, all of which bind to
  the major cisplatin-%DNA% %adducts%. Kplatin is toxic towards the human
  tumor cell lines HeLa and KM12 with LC50 values of 59.2+/-7.8 mu M and
  74 mu M, respectively.
ISSN:         0949-8257

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  %DNA% %adducts%. Kplatin is toxic towards the human tumor cell lines
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...IDENTIFIERS--HMG-DOMAIN PROTEINS; MOBILITY GROUP-1 PROTEIN;
  SMALL-MOLECULE LIBRARIES; CISPLATIN-MODIFIED %DNA%; CROSS-
LINKS;
  AMINO-ACIDS; ANTITUMOR COMPLEXES; EXCISION NUCLEASE; CARRIER
MOLECULES;
  CRYSTAL-STRUCTURE


4/3,AB,K/2    (Item 2 from file: 440)
DIALOG(R)File 440:Current Contents Search(R)
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05315704  GENUINE ARTICLE#: ND195  NUMBER OF REFERENCES: 58
TITLE: DRUG SYNTHESIS BY GENETICALLY ENGINEERED
MICROORGANISMS
AUTHOR(S): HUTCHINSON CR
CORPORATE SOURCE: UNIV WISCONSIN,SCH PHARM/MADISON//WI/53706
(Reprint);
  UNIV WISCONSIN,DEPT BACTERIOL/MADISON//WI/53706
PUBLICATION: BIO-TECHNOLOGY, 1994, V12, N4 (APR), P375-380
ISSN: 0733-222X
LANGUAGE: ENGLISH  DOCUMENT TYPE: REVIEW
ABSTRACT: The interplay between chemical and biological approaches to drug
  discovery and development is increasing with the advent of
  %combinatorial% methods that accelerate the output of screening
  programs and the development of genetically modified microorganisms
  able to make new metabolites and larger amounts of known ones.
  Actinomycetes, the most prolific microbial source of known drugs, can
  produce new aromatic compounds by manipulation of the Type II
  polyketide synthase genes as well as %analogs% of existing macrolide
  antibiotics, unavailable by chemical synthesis, through targeted
  mutation of specific biosynthetic genes. Genetic alteration of pathways
  to aminoglycoside and oligopeptide antibiotics should offer equally
  promising approaches to manufacturing novel metabolites. When coupled
  with %DNA%-%based% prescreening of microbial isolates for genes
  associated with known pharmacologically active agents, these new
  genetic-%based% approaches are creating an expanded role for
  microorganisms in drug research.
ISSN:         0733-222X

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  genetically modified microorganisms...

...new aromatic compounds by manipulation of the Type II polyketide
  synthase genes as well as %analogs% of existing macrolide antibiotics,
  unavailable by chemical synthesis, through targeted mutation of
  specific biosynthetic genes...

...and oligopeptide antibiotics should offer equally promising approaches
  to manufacturing novel metabolites. When coupled with %DNA%-%based%
  prescreening of microbial isolates for genes associated with known
  pharmacologically active agents, these new genetic-%based% approaches
  are creating an expanded role for microorganisms in drug research.


4 3,AB,K 3    (Item 1 from file: 149)
DIALOG(R)File 149:IAC(SM)Health&Wellness DB(SM)
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01681406    SUPPLIER NUMBER: 18421658    (USE FORMAT 7 OR 9 FOR FULL
TEXT)
Microsensors move into biomedical applications.
Ajluni, Cheryl
Electronic Design, v44, n11, p75(6)
May 28, 1996
PUBLICATION FORMAT: Magazine/Journal  ISSN: 0013-4872  LANGUAGE: English
RECORD TYPE: Fulltext: Abstract  TARGET AUDIENCE: Trade
```

WORD COUNT: 4339 LINE COUNT: 00361

ABSTRACT: Recent sensor developments in microelectromechanical system (MEMS) technology are having a major impact on the medical device field. MEMS microsensors are cheaper to produce than currently available medical devices and provide for much quicker test results in applications such as chemical analysis. MEMS microsensors are finding applications as disposable pressure sensors in patient monitoring devices. MEMS sensors are likewise used to monitor pressure in infusion pump lines and kidney dialysis machines.

... of the pressure-sensor function across manufacturers, thereby opening the door for future micromachined sensor-%based% medical applications. A great deal of research and development is now focused on the use...

...felt in other areas as well. For example, during a crime-scene investigation, handheld machines %based% on microsensor technology could be used to analyze various chemicals.

PITFALLS TO OVERCOME

While the...of a patient's lungs.

Many pressure microsensor manufacturers offer their own pressure-sensor versions. %Analog% Devices, Wilmington, Mass., for example, not only offers the sensor component, but the mixed-signal...

...pre-amplifier stage which converts the current output of the photodiode into a voltage. The %analog% signals in each channel are then low-pass-filtered and multiplexed. The output of the multiplexer stage is buffered and converted into digital format by the %analog%-to-digital converter (ADC) stage. Once the signal is in the digital domain, further processing...

...Perkin-Elmer Corp., Norwalk, Conn., is working toward the development of integrated systems for genetic-%based% analysis. Funded by the U.S. Advanced Research Projects Agency (ARPA), the project will explore... ...a Micro-Analytical Thermal Cycler, a dense array of minuscule temperature-controlled chambers in which %DNA% samples are amplified and quantified in real time for the detection of specific genes. Potential...

...the use of this technology include automated systems for genetic analysis and specific chemistries for %DNA%-%based% analyses.

Motorola Semiconductor, Phoenix, Ariz., also plays a role in the medical industry by providing...ear thermometers. The TC-500 family of chips go behind the sensors and convert raw %analog% signals to a digital interface. Their precision of 16 bits and above makes them ideal...

...as the actuators necessary to operate the fluidic components. Each individual cartridge contains a silicon-%based% chemical sensor chip, a sealed packet of calibration solution, and various fluid channels and chambers...

...Special issues of concern in the development of the arrays include requirements for bimolecular receptor %combinatorial% libraries, a suitable method for immobilization of the receptors on the transducer elements, and a...ion etching (DRIE), the success of which could potentially aid in the advancement of biomedical-%based% MEMS applications. The technique makes it possible to etch deep into silicon - up to 200...

...Laboratory, Livermore, Calif., have spent the past few years working on a silicon micromachined miniaturized %DNA% copy machine, under the guidance of Dr. Ken Gabriel of ARPA (ILLUSTRATION FOR FIGURE 6 OMITTED). %Based% on the polymerase chain reaction (PCR) technique, this high-speed, low-cost, low-power version of today's large cumbersome machine literally takes one copy of %DNA% and amplifies it to 1 billion copies.

During a typical PCR test, a mixture is created that will undergo thermal cycling. The mixture, consisting of a sample, free nucleotides, a %DNA%-copying enzyme, and primers, separates the paired strands of %DNA% during the heating process into two separate nucleotide chains. During the cooling process the primers, which essentially bind to %DNA% and help to target a portion for copying, bind to the appropriate spots on the...

...attaches free nucleotides end to end, starting at the primers, to copy the stretch of %DNA%. As the thermal cycling is repeated, the number of copies grows exponentially.

With conventional techniques...

...as little as 15 minutes. To date, the fastest thermal cycling time for the miniaturized %DNA% copy machine has been 35 thermal cycles in less than 10 minutes, a process that...
...took about two hours.

Continued research has led to even further improvements to the handheld %DNA% machine, allowing the monitoring of the amplification of the %DNA% in real time, using photodiodes and LEDs. This improvement also calls into play the use of an optical sensor that detects fluorescence. By contrast, the current conventional %DNA% machine uses a laser and a photomultiplier tube for optical detection.

To date, a number...

...impact the medical industry since the two functions are complementary, allowing a great increase in %DNA% sequencing for human disease identification.

Berkeley's microelectrophoresis on a ...process from 30 minutes to only 2 minutes. The electrophoretic process enables the separation of %DNA% molecules by size, and is the current standard technique for detecting %DNA%.

Sandia National Laboratory, Albuquerque, New Mexico, has also been working on a smart micromachine for...
? d his

>>>'HIS' not recognized as set or accession number
? ds

Set Items Description

S1 694 (DNA OR OLIGO NUCLEOTIDE? ? OR OLIGONUTLEOTIDE? ? OR RNA) -
AND (BASE? ?)AND (ANALOG???? OR ADDUCT? ?) AND (COMBINATORIAL
OR LIBRAR#### OR MIX OR MIXTRUR###)
S2 430 RD (unique items)
S3 84 S2 AND ((DNA OR OLIGO NUCLEOTIDE? ? OR OLIGONUTLEOTIDE? ? -
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NATORIAL OR LIBRAR#### OR MIX OR MIXTRUR###))
S4 46 S3 AND COMBINATORIAL OR LIBRAR####
? s s2 and ((DNA or oligo nucleotide? ? or oligonutleotide? ? or RNA) (5N) (base? ?) (5n) (analog???? or adduct? ?) and(combinatorial or librar#### or mix or mixtrur###))

Processing
Processed 10 of 24 files ...
Processing
Processing
Processed 20 of 24 files ...
Completed processing all files
430 S2
3178425 DNA
1 OLIGO NUCLEOTIDE? ?
0 OLIGONUTLEOTIDE? ?
1621169 RNA
8707774 BASE? ?
1667149 ANALOG????
156941 ADDUCT? ?
5869 (((DNA OR OLIGO NUCLEOTIDE? ?) OR OLIGONUTLEOTIDE? ?) OR
RNA)(5N)BASE? ?(5N)(ANALOG???? OR ADDUCT? ?)
36945 COMBINATORIAL
0 LIBRAR####
372908 MIX
0 MIXTRUR###
S5 15 S2 AND ((DNA OR OLIGO NUCLEOTIDE? ? OR OLIGONUTLEOTIDE? ?
OR RNA) (5N) (BASE? ?) (5N) (ANALOG???? OR ADDUCT? ?)
AND(COMBINATORIAL OR LIBRAR#### OR MIX OR MIXTRUR###))
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>>>No matching display code(s) found in file(s): 390, 449, 636, 669

5/3,AB,K/1 (Item 1 from file: 440)
DIALOG(R)File 440:Current Contents Search(R)
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09310666 GENUINE ARTICLE#: ZA977 NUMBER OF REFERENCES: 51
TITLE: A mechanism-%based%, solution-phase method for screening %combinatorial% mixtures of potential platinum anticancer drugs
AUTHOR(S): Sandman KE; Fuhrmann P; Lippard SJ
CORPORATE SOURCE: MIT,DEPT CHEM/CAMBRIDGE//MA/02139 (REPRINT); MIT,DEPT CHEM/CAMBRIDGE//MA/02139
PUBLICATION TYPE: JOURNAL
PUBLICATION: JOURNAL OF BIOLOGICAL INORGANIC CHEMISTRY, 1998, V3, N1 (FEB)
, P74-80
PUBLISHER: SPRINGER VERLAG, 175 FIFTH AVE, NEW YORK, NY 10010
ISSN: 0949-8257
LANGUAGE: English DOCUMENT TYPE: ARTICLE
ABSTRACT: We report a new, mechanism-%based% approach to the screening of pools of potential platinum antitumor drugs. A platinum complex of L-lysine, [Pt(Lys)Cl-2] or Kplatin, was selected from mixtures of platinum-amino acid compounds %based% on the ability of its %DNA% %adducts% to bind HMG1 in a gel mobility shift assay. Kplatin, unlike most other platinum antitumor drug candidates, is an (N,O)-chelated complex which binds %DNA% forming two isomeric 1,2-d(GpG) intrastrand %DNA% cross-links. Kplatin-modified %DNA% is spe cifically recognized by HMG1, HMG1 domain B, and testis-specific HMG, all of which bind to the major cisplatin-%DNA% %adducts%. Kplatin is toxic towards the human tumor cell lines HeLa and KM12 with LC50 values of 59.2+/-7.8 mu M and 74 mu M, respectively.
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...IDENTIFIERS--HMG-DOMAIN PROTEINS; MOBILITY GROUP-1 PROTEIN; SMALL-MOLECULE LIBRARIES; CISPLATIN-MODIFIED %DNA%; CROSS-LINKS;
AMINO-ACIDS; ANTITUMOR COMPLEXES; EXCISION NUCLEASE; CARRIER MOLECULES;
CRYSTAL-STRUCTURE

5/3,AB,K/2 (Item 2 from file: 440)
DIALOG(R)File 440:Current Contents Search(R)
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04902271 GENUINE ARTICLE#: MA379 NUMBER OF REFERENCES: 88
TITLE: MECHANISMS OF CARCINOGENICITY OF METHYL HALIDES

AUTHOR(S): BOLT HM; GANSEWENDT B
CORPORATE SOURCE: UNIV DORTMUND,INST ARBEITSPHYSIOL,ARDEYSTR 67/D-44139
DORTMUND 1//GERMANY/ (Reprint)
PUBLICATION: CRITICAL REVIEWS IN TOXICOLOGY, 1993, V23, N3, P237-253
ISSN: 1040-8444
LANGUAGE: ENGLISH DOCUMENT TYPE: REVIEW
ABSTRACT: Methyl chloride, bromide, and iodide are used as methylating agents. These compounds are mutagenic in short-term tests and do not require activation by exogenous S9 %mix%. In %DNA%-binding studies performed in rats and mice, C-14-labeled methyl chloride was given by inhalation, and methylation of %DNA% %bases% was examined. The compound did not lead to specific %DNA% %adducts%. In particular, methylation of %DNA% %bases% was not observed. In contrast, methyl bromide and methyl iodide, upon oral and inhalation administration to rats and mice, caused systemic %DNA% methylation. Specifically, 3-methyl-adenine, 7-methyl-guanine, and O6-methyl-guanine were formed. Long-term inhalation bioassays have been performed in rats and mice with methyl chloride and methyl bromide. Methyl chloride induced renal tumors, but only in male mice at die highest concentration tested (1000 ppm). Under these special conditions, a number of secondary effects occur subsequent to glutathione depletion in the target tissue, resulting in %DNA% damage (%DNA%-protein cross-links and probably %DNA% single-strand breaks). The particular coincidence of secondary high-dose effects precludes a risk extrapolation to man. Methyl bromide did not induce tumors in rats and mice when administered by inhalation. However, experimental data point to a possible local carcinogenic effect on the rat forestomach when the compound is given by gavage. A factor that accounts for the discrepancy between systemic %DNA% methylation and apparent noncarcinogenicity upon inhalation might be the preference of 7-N over O6 methylation of guanine. An extrapolation of the negative rodent inhalation bioassay of methyl bromide to man might be problematic because rodents metabolize methyl bromide very quickly whereas in humans there is a particular subpopulation that only poorly metabolizes the compound ("nonconjugators"). Such individuals can be characterized by incubation of erythrocytes with methyl chloride or methyl bromide and measurement of the substrate decline. Methyl iodide has been tested, with positive outcome, in early carcinogenicity bioassays not %based% on modern methodology. However, these results, along with the proven systemic methylating potency of methyl iodide, argue in favor of a carcinogenic effect of the compound.
ISSN: 1040-8444
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...IDENTIFIERS--RESISTANT TFT MUTANTS; HAMSTER EMBRYO CELLS; MOUSE LYMPHOMA-CELLS; HEMOGLOBIN %ADDUCTS%; HUMAN-ERYTHROCYTES; GLUTATHIONE DEPLETION; CHLORIDE INVITRO; S-METHYLCYSTEINE; %DNA%-BINDING; F344 RATS

5/3,AB,K/3 (Item 1 from file: 149)
DIALOG(R)File 149:IAC(SM)Health&Wellness DB(SM)

01119250 SUPPLIER NUMBER: 04685857 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Splicing of messenger %RNA% precursors. (involves formation of spliceosome)
Sharp, Phillip A.
Science, v235, p766(6)
Feb 13, 1987
PUBLICATION FORMAT: Magazine/Journal ISSN: 0036-8075 LANGUAGE: English
RECORD TYPE: Fulltext TARGET AUDIENCE: Academic
WORD COUNT: 5026 LINE COUNT: 00528

Splicing of messenger %RNA% precursors. (involves formation of spliceosome)

TEXT:
Splicing of Messenger %RNA% Precursors
THE DISCOVERY OF %RNA% SPLICING AND INTRONS IN 1977heralded a new era
in the study of the molecular biology of eukaryotic gene expression. The complexity of gene organization, the %combinatorial% possibilities of assembling different coding exons from an %RNA% precursor, and the novelty of the %RNA%-splicing process clearly indicated that eukaryotic molecular biology would be fascinatingly different from that of...

...structure and expression. Here, we will focus on recent results concerning the splicing of messenger %RNA% (mRNA) precursors (1).
Questions
Several global questions are central to the study of %RNA% splicing. The first of these is the basis of the specificity of excision of intervening...

...and ligated, and what additional information specifies the excision of introns that are thousands of %base% pairs in length? It is now clear that small nuclear ribonucleoprotein particles (snRNPs) are crucial...

...the mechanisms of the endonucleolytic cleavage and ligation steps, and are these reactions catalyzed by %RNA% or protein components? A tentative relation between self-splicing introns, which are excised by %RNA% catalysis (3), and the splicing of mRNA precursors has implications for the origin and antiquity of introns. Finally, what is the relation between %RNA% splicing and transport of %RNA% from the nucleus? Answers to these questions are not yet known but recent results suggest...

...mRNA precursors in mammalian, plant, and yeast cells. Analysis of the splicing of radioactive substrate %RNA% in reactions containing nuclear extracts of either mammalian (4-7) or yeast cells (8) revealed the generation of lariat RNAs. A lariat %RNA% contains a site where the molecule branches (9). The excised intervening sequences (IVS) are released as a lariat %RNA% with the terminal guanosine residue linked through a 2-5 phosphodiester bond to an adenosine...

...group I type are also found in the intron of the nuclear gene for ribosomal %RNA% in the protozoan Tetrahymena. As Cech et al. discovered, %RNA% precursors containing this intron self-splice in the absence of protein (12). It is now assumed that all group I introns are processed by a similar %RNA%-catalyzed reaction the rate of which is enhanced by the binding of proteins. Until recently...

...at the branch site participates in the first transesterification reaction (13). This produces the lariat %RNA% that is subsequently found in the excised intron. Shown at the right in Fig. 2...

...suggest that the splicing process of nuclear mRNA precursors is closely related to that of %RNA%-catalyzed self-splicing reactions (15, 16). This relation could reflect a common evolutionary origin so that the mRNA precursor process might be descended from the putatively more primitive %RNA%-catalyzed process.
As mentioned above, self-splicing introns can be assigned to twogroups on the...
...total, both consensus sequences and conserved secondary structures can be accommodated in 150 nucleotides of %RNA%. Mutational studies have shown that both ...important for self-splicing (3). This work strongly suggests that a short core of conserved %RNA% sequences forms a catalytic pocket where the sequences at the splice sites and the guanosine...

...of this core structure was first demonstrated by an intramolecular reaction, self-splicing, the core %RNA% also has activity in intermolecular reaction. For example, it has recently been shown that the...

...a group I intron can catalyze cleavage at the 5 splice site of a substrate %RNA% (17). Thus, covalent linkage of the catalytic core %RNA% with substrate %RNA% that contains splice sites is almost certainly unnecessary for %RNA%-catalyzed splicing.
The process of splicing of nuclear mRNA precursors seemsevolutionarily related to the self...

...one or both of the two steps in the nuclear process may prove to be %RNA% catalyzed. Any catalytic %RNA% involved in the splicing of mRNA precursors could not be part of the precursor %RNA%, since mutational analysis has shown that the only intron sequences essential for splicing are the...
...the 5 and 3 splice sites (18). The obvious candidates for specifying this hypothetical catalytic %RNA% structure are the highly evolutionary conserved small nuclear RNAs (snRNAs). These RNAs are present in...

...abundant types (20). These particles possess between five and nine polypeptides in addition to the %RNA% component, snRNA. U1, U2, and U5 snRNPs appear to contain a single %RNA% per particle, whereas the U4 U6 snRNAs can coexist within a single particle (21). The...

...snRNAs share some distinctive properties, a trimethyl cap structure at the 5 terminus of the %RNA% moiety, a common set of core polypeptides recognized by poly- or monoclonal antibodies of the Sm type (23), and an internal %RNA% sequence of the type AUUUUUG. This sequence is thought to be responsible for the binding...

...Fig. 3).
The second most abundant particle in mammalian nuclei is the U2snRNP. When substrate %RNA% is incubated in cell extracts, a complex containing this particle forms on sequences upstream of...

...the 3 splice site will prevent formation of the U2 snRNP complex on a substrate %RNA% that lacks a 5 splice site sequence (32). However, a U2 snRNP complex will form on %RNA% from such a mutant if the substrate %RNA% contains a wild-type 5 splice site sequence. These observations suggest that (i) recognition of...

...3 splice site (37). Perhaps this protein is part of the complex formed with substrate %RNA% and U2 snRNP. It has been suggested that U5 snRNP can bind the 3 splice...

...site could also facilitate the ATP-dependent formation of the U2 snRNP complex.
The substrate %RNA%-U2 snRNP complex is remarkably stable,surviving days of storage at 4°C. This stability suggests that formation of the U2 snRNP complex on a nuclear precursor %RNA% in vivo could commit that region of the %RNA% to the intron role in a splicing reaction. Formation of these types of complexes along a precursor %RNA% would then specify the number of introns to be excised. The temporal order of formation...

...The experimental definition of a spliceosome is a multicomponent complex that forms on the precursor %RNA% before the first cleavage step. A strong

indication that such a multicomponent complex might exist was the bipartite %RNA% structure of the intermediate in splicing (Fig. 1). Such a complex would hold the two...
...snRNP complex on the 3 splice site preceedes formation of the spliceosome containing the intermediate %RNA% forms.
The spliceosome has also been purified by affinity chromatographyof biotin conjugates of substrate %RNA% (39). Incubation of this %RNA% in a splicing reaction results in formation of a spliceosome that can be purified by...

...method of a heparin-treated spliceosome clearly showed that the spliceosome contained, along with substrate %RNA%, approximately equal molar amounts of the snRNAs U2, U4, U5, and U6 (39). Surprisingly, the...

...spliceosome.
The combination of sedimentation and affinity chromatographyhas also been used to purify the substrate %RNA%-U2 snRNP complex. The only snRNA found in this complex is U2 (39). Again, it...

...the spliceosome structure is unclear. Incubation of nuclear extracts in the absence of exogenous substrate %RNA% results in the accumulation of a multi-snRNP complex of U4 U6 and U5 snRNPs...

...multi-snRNP complex is primarily to the U2 snRNP or to sequences in the precursor %RNA% or to both remains to be determined. If U1 snRNP is not part of the...and contains extensive homology near its 5 terminus to the mammalian U2 snRNA, 43 identical %bases% in 47 positions (46). This %RNA% is clearly the yeast %analog% of U2 snRNA. In addition to the homology to U2 snRNA, the yeast snRNA also...

...40S ribosome subunit binds to a ternary complex of initiation factor (eif-2), initiation transfer %RNA% (met-tRNA), and guanosine 5-triphosphate (GTP) (48). This complex then binds to a specific...

...process of translation (16, 51). Processes such as splicing that can be catalyzed solely by %RNA% probably preceded those, such as translation, that utilize protein and, perhaps also, %RNA% catalysis. It may turn out that some components of the spliceosome and ribosome may be...

...mechanisms, are compatible with prokaryotic systems.
Analysis in Vitro of Mutations in Splice Sites
The %RNA% sequences recognized during formation of the corespliceosome are those at the boundaries of the intron...

...decrease the rate of splicing and, in some cases, completely block synthesis of the mature %RNA%. It is somewhat surprising that mutations of either the G or U at the 5 splice site allow the formation of the branch, thus the lariat %RNA% of the intermediate, but are defective for the second step in splicing (34, 52). Hence...

...must recognize the branch site to promote processing at the 3 splice site. Alternatively, the %RNA% structure at the branch site could be directly involved in the second reaction.
Mutations in...second step involves a reaction at the AG site.
Mutational studies have also shown that %RNA% secondary structureseither involving splice sites or flanking splicing sites can affect the efficiency of splicing...

...of long introns seem the most likely. It is possible to imagine that the precursor %RNA% is organized by the binding of proteins and snRNPs into a periodic structure where certain...

...processing. A defined structure has been determined for the RNP particles containing the long nuclear %RNA% precursors from the genes in the Balbiani rings (56). In addition, it is known that the majority of the heterogeneous nuclear %RNA% in cells is bound to an abundant group of proteins that limit nuclease sensitivity to...

...sites might thus provide additional specificity for splicing. It should be noted, however, that specificity %based% on the generation of a unique structure extending over significant lengths of the precursor would...

...interactions of snRNPs specifies the incorporation of the two correct splice sites into the spliceosome.
%RNA% Splicing and Nuclear Matrix
Interactions of snRNP with snRNP are critically important forsplicing and might...

...are easily conjectured. In fact, evidence suggests that the polyadenylation reaction, cleavage of the precursor %RNA% and addition of a polyadenylate tract to create the 3 end of the mRNA, requires...

...isolated nuclei with high salt (2M NaCl), nonionic detergent (1 percent Triton), and digestion of %DNA% [deoxyribonuclease (DNase) I treatment] (60, 61). When viewed by electron microscopy, such samples retain the...

...to exit from the nucleus by way of nuclear pores, and thus transport of nuclear %RNA% must be directional, to and through the pores. Providing a structural explanation for polarity of...P.A.S.
Photo: Fig. 1. Splicing mechanism of the mRNA precursor. A prototype precursor %RNA% is drawn with the intervening sequences or intron sequences spanning from the indicated 5 and...

...indicated at the splice sites and branch site (Y, pyrimidine; R, purine; and N, any %base%). The fate of the phosphate moieties at the 5 and 3 splice sites during the...

...mechanism of self-splicing introns of the group I type. This process is catalyzed by %RNA% structures within the intron (dark semicircle) utilizing a guanosine (G) cofactor. The second column outlines...

...of self-splicing introns of the group II type. This process is also catalyzed by %RNA% structures within the intron (dark semicircle) but utilizing instead of a cofactor an adenosine residue (A) within the intron to form a lariat %RNA%. The third column outlines the mRNA precursor splicing mechanism diagrammed in Fig. 1. The large...

...sites is indicated.
Photo: Fig. 3. Assembly of a spliceosome. The structure of the substrate %RNA% is shown on the first line. Addition of this %RNA% to a nuclear extract results in the recognition of the 5 splice site by U1 snRNP. The precursor %RNA% is probably also associated with hnRNP core proteins. It has been suggested that U5 snRNP...
...at this stage. These interactions are indicated on the second line. Incubation of the substrate %RNA% in the presence of adenosine 5-triphosphate (ATP) results in the rapid formation of a...
CAPTIONS: Splicing mechanism of messenger %RNA% precursor. (chart); Comparison of self-splicing and nuclear messenger %RNA% splicing mechanisms. (chart); Assembly of a spliceosome. (chart)

...DESCRIPTORS: %RNA%--

5/3,AB,K/4 (Item 1 from file: 434)
DIALOG(R)File 434:Scisearch(R) Cited Ref Sci
(c) 1998 Inst for Sci Info. All rts. reserv.

16175504 Genuine Article#: YH012 Number of References: 49
Title: Targeting chimeric alpha,beta-oligonucleotides to the flanks of a stem in %DNA%. The enhanced effect of an intercalator
Author(s): Khattab AF; Pedersen EB (REPRINT)
Corporate Source: ODENSE UNIV,DEPT CHEM, CAMPUSVEJ 55/DK-5230 ODENSE M//DENMARK/ (REPRINT); ODENSE UNIV,DEPT CHEM/DK-5230 ODENSE M//DENMARK/
Journal: ACTA CHEMICA SCANDINAVICA, 1997, V51, N12 (DEC), P1245-1252
ISSN: 0904-213X Publication date: 19971200
Publisher: MUNKSGAARD INT PUBL LTD, 35 NORRE SOGADE, PO BOX 2148, DK-1016
COPENHAGEN, DENMARK
Language: English Document Type: ARTICLE
Abstract:
3'-O-(4,4'-Dimethoxytrityl)-5-methyl-N-4-(1-pyrenylmethyl)-alpha-cytidine (7) was prepared from alpha-thymidine by the reaction of 1-pyrenylmethylamine with an appropriate protected 4-(1,2,4-triazolyl)-alpha-thymidine derivative 5. 3'-O-(4,4'-Dimethoxytrityl-alpha-thymidine (9) was synthesized by successive, 5'-O-acetylation, 3'-O-tritylation and 5'-O-deacetylation of alpha-thymidine. Phosphitylation of the 5'-hydroxy group of 7 and 9 afforded the amidites 8 and 10. These amidites and commercial beta-2'-deoxyribonucleoside-3'-phosphoramidites were used in the synthesis of chimeric ODNs with 3'-3' and 5'-5' internucleotidic phosphodiester linkages. The stability of a %DNA% three way junction (TWJ) was studied by observing the thermal melting when a %DNA% was targeted to the flanks of a hairpin. The TWJ was considerably stabilized when 7 and 9 were inserted into the junction region. The corresponding duplex obtained by deleting the hairpin, however, was destabilized on insertion of 7 and 9.

Title: Targeting chimeric alpha,beta-oligonucleotides to the flanks of a stem in %DNA%. The enhanced effect of an intercalator
...Abstract: chimeric ODNs with 3'-3' and 5'-5' internucleotidic phosphodiester linkages. The stability of a %DNA% three way junction (TWJ) was studied by observing the thermal melting when a %DNA% was targeted to the flanks of a hairpin. The TWJ was considerably stabilized when 7...
...Identifiers--INTERNUCLEOTIDIC PHOSPHODIESTER LINKAGES; COVALENTLY
ATTACHED BENZO<A>PYRENE; C-8-MODIFIED SYN GUANINE; PARALLEL-STRANDED
%DNA%; SOLUTION CONFORMATION; %BASE% DISPLACEMENT; NUCLEIC-ACIDS;
DELETION SITE; MAJOR GROOVE; OLIGODEOXYNUCLEOTIDE %ANALOGS%
...Research Fronts: OF COLLAGENASE TYPE-I EXPRESSION; THYMIDINE DIMER CONTAINING AN INTERNUCLEOSIDE PHOSPHINATE LINKAGE)
95-1959 001 (%RNA% WORLD; EARLY EVOLUTION; IN-VITRO SELECTION; %COMBINATORIAL% DRUG DISCOVERY; RANDOM NUCLEIC-ACID SEQUENCES;
MOLECULAR RECOGNITION)

5/3,AB,K/5 (Item 2 from file: 434)
DIALOG(R)File 434:Scisearch(R) Cited Ref Sci
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15547729 Genuine Article#: WP583 Number of References: 57
Title: Decoding fidelity at the ribosomal A and P sites: Influence of mutations in three different regions of the decoding domain in 16S rRNA
Author(s): OConnor M (REPRINT) ; Thomas CL; Zimmermann RA; Dahlberg AE
Corporate Source: BROWN UNIV,JW WILSON LAB, DEPT MOL & CELL BIOL & BIOCHEM,
BOX G/PROVIDENCE//RI/02912 (REPRINT); UNIV MASSACHUSETTS,DEPT BIOCHEM &
MOL BIOL/AMHERST//MA/01003; UNIV MASSACHUSETTS.PROGRAM MOL & CELLULAR
BIOL/AMHERST//MA/01003
Journal: NUCLEIC ACIDS RESEARCH, 1997, V25, N6 (MAR 15), P1185-1193
ISSN: 0305-1048 Publication date: 19970315
Publisher: OXFORD UNIV PRESS UNITED KINGDOM, WALTON ST JOURNALS DEPT,
OXFORD, ENGLAND OX2 6DP
Language: English Document Type: ARTICLE
Abstract: The involvement of defined regions of Escherichia coli 16S rRNA in the fidelity of decoding has been examined by analyzing the effects of rRNA mutations on misreading errors at the ribosomal A and P sites. Mutations in the 1400-1500 region, the 530 loop and in the 1050/1200 region (helix 34) all caused readthrough of stop codons and frameshifting during elongation and stimulated initiation from non-AUG

codons at the initiation of protein synthesis. These results indicate the involvement of all three regions of 16S rRNA in decoding functions at both the A and P sites. The functional similarity of all three mutant classes are consistent with close physical proximity of the 1400-1500 region, the 530 loop and helix 34 and suggest that all three regions of rRNA comprise a decoding domain in the ribosome.

...Identifiers--AFFECT TRANSLATIONAL FIDELITY; DIRECTED CROSS-LINKING; MESSENGER-%RNA% %ANALOGS%; ESCHERICHIA-COLI; PROTEIN-SYNTHESIS; %BASE% CHANGES; RESISTANCE; INITIATION; CODON; STREPTOMYCIN
Research Fronts: 95-1959 001 (%RNA% WORLD; EARLY EVOLUTION; IN-VITRO SELECTION; %COMBINATORIAL% DRUG DISCOVERY; RANDOM NUCLEIC-ACID SEQUENCES; MOLECULAR RECOGNITION)

5/3,AB,K/6 (Item 3 from file: 434)
DIALOG(R)File 434:Scisearch(R) Cited Ref Sci
(c) 1998 Inst for Sci Info. All rts. reserv.

08867521 Genuine Article#: P0491 Number of References: 35
Title: %COMBINATORIAL% CASSETTE MUTAGENESIS AS A PROBE OF THE INFORMATIONAL CONTENT OF PROTEIN SEQUENCES
Author(s): REIDHAAROLSON JF; SAUER RT
Corporate Source: MIT,DEPT BIOL/CAMBRIDGE//MA/02139
Journal: SCIENCE, 1988, V241, N4861, P53-57
Language: ENGLISH Document Type: ARTICLE

Title: %COMBINATORIAL% CASSETTE MUTAGENESIS AS A PROBE OF THE INFORMATIONAL CONTENT OF PROTEIN SEQUENCES
Research Fronts: 86-0849 001 (CRO PROTEIN; %DNA%-ECO RI ENDONUCLEASE RECOGNITION COMPLEX; NONSPECIFIC %DNA%; LAC OPERATOR; HOMOLOGOUS INTERACTIONS; %BASE% %ANALOG% SUBSTITUTIONS)
86-0967 001 (PROTEIN STABILITY; AMINO-ACID SEQUENCE; TERTIARY STRUCTURE OF PROTEINS; DISULFIDE BONDS...

5/3,AB,K/7 (Item 1 from file: 148)
DIALOG(R)File 148:IAC Trade & Industry Database
(c) 1998 Info Access Co. All rts. reserv.

09423195 SUPPLIER NUMBER: 19311583 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Hybridon Issued Patent for Novel Reagent to Speed the Synthesis of Synthetic %DNA%
PR Newswire, p415NETU006
April 15, 1997
LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 923 LINE COUNT: 00081

Hybridon Issued Patent for Novel Reagent to Speed the Synthesis of Synthetic %DNA%
... of matter of pent-enoyl (PNT) protected nucleotides which facilitate the rapid synthesis of synthetic %DNA% and the production of a variety of %DNA% %analogs%. The Company expects that these products will have broad-%based% applications in oligonucleotide-%based% therapeutics, gene sequencing and diagnostics.
PNT is a multipurpose protecting group which enables assembly of the nucleic acid building blocks of synthetic %DNA%. The use of PNT technology is expected to enable Hybridon to synthesize %DNA% with far greater speed and flexibility. Additionally, novel %DNA% %analogues% that are more difficult to synthesize can now be made for study as antisense agents.
"This is a key patent for making novel mixed backbone %DNA% compounds which we believe are the future for antisense therapeutics," said E. Andrews Grinstead, III...

...and CEO of Hybridon. "We expect PNT technology to open a wide vista of oligonucleotide-%based% applications in both therapeutics and diagnostics."
Hybridon expects that the use of PNT technology will...

...plans to utilize PNT technology to make support- bound oligonucleotides, which are useful in oligonucleotide-%based% affinity columns and in %combinatorial% applications. While the majority of the PNT applications have been in solid phase synthesis, the...

...trials in the US and Europe. Antisense technology involves the use of synthetic segments of %DNA% and %RNA% to stop the production of disease-associated proteins by interacting at the genetic level with target strands of messenger %RNA%.
This press release contains forward-looking statements that involve a number of risks and uncertainties...

...to its knowledge, any other company has successfully completed human clinical trials of a product %based% on antisense technology, and there can be no assurance that the Company will receive regulatory...

PRODUCT/INDUSTRY NAMES: 2831862 (%DNA% Clones)

5/3,AB,K/8 (Item 2 from file: 148)
DIALOG(R)File 148:IAC Trade & Industry Database
(c) 1998 Info Access Co. All rts. reserv.

05201094 SUPPLIER NUMBER: 10463221 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Polymer science at U of T's Chemistry Department. (University of Toronto)(Plastics in Canada: the state of the art) (Cover Story)
Guillet, James. E.
Canadian Chemical News, v43, n1, p28(3)
Jan, 1991
DOCUMENT TYPE: Cover Story ISSN: 0823-5228 LANGUAGE: ENGLISH
RECORD TYPE: FULLTEXT
WORD COUNT: 2280 LINE COUNT: 00196

... programme to answer several questions regarding the mechanism of splicing and catalysis of ribonucleic acid (%RNA%). One research goal is to demonstrate that these complex biological processes can be studied by...

...of nucleotide structures for use in novel strategies for drug design. The applicability of nucleotide %analogues% in chemotherapy depends largely on the stability of the drug in organisms. Two new classes of nucleotide %analogues% are being developed in Damha's laboratory in which degradation of nucleosidic and phosphoric acid ester linkages is made impossible by stereochemical alterations. These %analogues% have physical properties similar to natural %DNA%/%RNA% oligomers, but at the same time are restricted in their interactions with most enzymes which catalyze degradative processes. The degree of %base% pairing between these %analogues% and the complementary sequences of normal %DNA% and %RNA% chains is being investigated by UV absorption measurements. This feature is important to the development...repulsions. Macdonald and his students have developed a new method for measuring particle surface charge, %based% on (2)H-NMR spectroscopy. They discovered that choline behaves like a |molecular voltmeter' in...a latex film after heat treatment. Phe and An, originally in separate latex particles, could %mix% only through the process of polymer diffusion. Using the fluorescence decay technique, diffusion processes as...

5/3,AB,K/9 (Item 1 from file: 669)
DIALOG(R)File 669:Federal Register
(c) 1998 The Dialog Corporation. All rts. reserv.

00510660
Fuels and Fuel Additives Registration Regulations
Vol. 59, No. 122
Part II
59 FR 33042
Monday, June 27, 1994

TEXT:
...B. Grouping Approach and Criteria

C. Implementation of Grouping System and Cost-Sharing Provisions

V. %Base% Fuel Specifications and Formulation Requirements

A. Gasoline

B. Diesel

C. Alternative Fuels

VI. Emission Generation...that the time period for providing the "requisite information" under section 211(e)(2) is %based% on the "date of promulgation" of the rule. Therefore, the requirements under CAA section 211...

... FAs which have been designated to be registered by EPA (see Section III.A.3). %Based% on the provisions of CAA section 211(e), the requirements must be satisfied both by...welfare effects of F/FA emissions, characterize the emissions, and provide a qualitative exposure analysis %based% on total annual production volume and market distribution data (see Section VII for details on...

... testing requires the exposure of laboratory animals to the whole emissions of fuels or additive/%base% fuel mixtures. fn 1 To the extent that previously conducted studies are available which are...tests (see Section VII.A.2).

fn 1 An additive must be mixed with the %base% fuel of its associated fuel family prior to generating emissions for testing (see Sections IV...

... EPA recognizes that the number of laboratory facilities currently available to conduct the required emission-%based% toxicological tests is very limited. EPA expects that the promulgation of this rule will create... such a view. The 1977 House Report, fn 3 upon which section 211(e) was %based%, states:

fn 3 H. Rept. No. 294, 95th Cong., 1st Sess. 308, reprinted in 1977... requisite information" as the data required by Tiers 1 and 2. In part this was %based% on EPA's understanding that Congress intended that the testing rule promulgated under section 211... FA in a different fuel family. Considering a fuel or bulk additive to be registrable %based% on an aftermarket additive registration could significantly increase the public exposure to that F/FA...c).

Section 211(c) of the CAA gives EPA the authority to regulate F/FAs %based% on the impact of their emissions on public health or welfare. Specifically, it allows the...

... in the NPRM, EPA proposed to focus this rule's requirements on the potential emissions-%based% effects of F/FAs rather than on the effects of the raw (i.e., uncombusted...

... FA product. Public comment received after publication of the NPRM generally supported the proposed emissions-%based% focus of the rule. Accordingly, EPA has retained this focus in today's action. The...
... on the evaluation of health effects of the whole emissions of the fuel or additive/%base% fuel mixture of interest and not on the toxicity of the individual emission products.

fn...

... combustion emissions are the primary exhaust products of the combustion of a fuel or additive/%base% fuel mixture in a motor vehicle engine and do not include secondary atmospheric transformation products...significance of vaporization varies widely, depending largely on the volatility of the fuel or additive/%base% fuel mixture. Thus, this final rule uses the Reid Vapor Pressure (RVP) of a fuel or additive/%base% fuel mixture to determine its applicability for evaporative emissions testing. An RVP of 2.0...

... additives, the NPRM proposed to require evaporative emission testing if the RVP of the additive/%base% fuel mixture was increased by 0.1 psi or more in comparison with the RVP of the %base% fuel alone. However, methods for measurement of vapor pressure have a reproducibility of about 0...

...evaporative emission testing of additives when the RVP of the associated fuel in the additive/%base% fuel mixture is increased by 0.4 psi and the resulting RVP of the additive/%base% fuel mixture is 2.0 psi or more. fn 14 For example, an additive that...

...a vapor pressure of 1.0 psi (i.e., the resulting RVP of the additive/ %base% fuel mixture is 1.6), need not be tested for evaporative emissions. On the other...

... psi is required to undergo evaporative emission testing because the resulting RVP of the additive/%base% fuel mixture is 2.1 psi.

fn 13 See "Standard Test Method for Vapor Pressure...

...of the additive as part of a group, of which another member product or a %base% fuel serves as the group representative, and the manufacturer does not specifically test the additive...

...retains the authority to require evaporative emission testing under Tier 3 for fuels or additive/%base% fuel mixtures with low vapor pressure, e.g., RVP less than 2.0, if there...

...a health or welfare concern associated with the evaporative emissions of the fuel or additive/%base% fuel mixture in question. For example, if a highly toxic substance is present in a fuel or additive/%base% fuel mixture, EPA could require evaporative emission testing under Tier 3, even if the RVP...limited to the analysis of compounds whose chemical/physical behavior is similar to carbon monoxide.

%Based% on the above factors, EPA believes that quantitative evaluations of potential exposures and environmental fate...outside parties are allowed to submit petitions to EPA requesting the testing of grandfathered products %based% on evidence of potential harm to vehicular ECS. If EPA judges that ECS testing is...

...meet the requirements of this final rule, an additive must be mixed with its associated %base% fuel fn 16 prior to generating the emissions for testing. To the extent that the resulting additive/%base% fuel mixture is similar to existing fuel formulations, the tests conducted on the emissions of the additive/%base% fuel mixture will be duplicative of tests conducted on the related fuels. To avoid potential...mixture) can serve as either a fuel or an additive (e.g., ethanol).

fn 16 %Base% fuel specifications for each fuel family are described in Section V.

In the NPRM, EPA developed criteria for sorting individual F/FAs into groups of related formulations %based% on similarities in the chemical/physical properties of the "raw" fuel or additive/%base% fuel mixture. EPA has maintained this approach in the final rule. EPA expects F/FAs...

... all members of the group, with applicable costs to be shared by the respective manufacturers (%based% on their cost-sharing agreements, as discussed in Section IV.C). Manufacturers who question whether...59

Generic rules for categorization and grouping are used to determine specific F/FA groups %based% on the raw composition of the particular products under consideration. The first step entails the...and baseline diesel F/FAs.

Today's rule specifies the chemical and physical characteristics of " %base% fuel" formulations for each defined fuel family. These are generic formulations (rather than any particular...

... of the proper category and group (for each applicable fuel family) for the additive is %based% on the properties of the mixture that results when the additive is mixed in the %base% fuel of the applicable family at the maximum concentration recommended for use by the additive...

... generation and testing of additive emissions. fn 17 Tests conducted on the emissions of the %base% fuel then serve as one control (the other being a clean-air exposure group) against which tests on the emissions of the additive/%base% fuel mixture are to be compared. Further discussion on the definition and use of %base% fuels is presented in Section V.

fn 17 Special provsions related to the testing of...

... atypical." The baseline category consists of fuels and associated fuel additives which resemble the respective %base% fuel for a particular fuel family in terms of elemental composition and which conform with...

... particular constituents. It is important to understand that a baseline category is not limited to %base% fuels; the baseline category and group criteria defined below for each fuel family are considerably less restrictive than the respective %base% fuel definitions (specified in Section V). Non- baseline F/FAs contain no chemical elements other...

... certain constituents, as discussed below.) As mentioned above, the category determination for fuel additives is %based% on the properties of the mixture which results when the additive is mixed in the appropriate %base% fuel at the maximum concentration recommended for use by the additive manufacturer. If the fuel or additive/%base% fuel mixture contains both non-baseline and atypical constituents, the formulation is characterized as atypical... for that family. As described further below, such F/FAs are then subdivided into groups %based% primarily on which atypical element(s) they contain. Moreover, the rules for choosing representatives of...

... can reasonably be expected to appear in the emissions and may thus have distinct emissions-%based% toxicologic effects. EPA believes that this approach best effectuates CAA section 211(e) by avoiding...

... than elemental composition. In the case of gasoline and diesel F/FAs, the distinction is %based% primarily on the presence of significant concentrations of oxygenating compounds. As discussed further below, the... final rule consider the potential health implications of the composition of the fuel or additive/%base% fuel mixture and might differ from previously established commercial fuel specifications, such as those established...

... contained. In contrast, Option B used an oxygen cutoff point of 2.7 weight percent, %based% on current "substantially similar" criteria (see 56 FR 5352). F/FAs which exceeded this limit...

... both grouping options. The main purpose of the grouping system is to sort F/FAs %based% on the similarities of their emission components. After ... formulation. Differences in emission species will affect the toxicological characteristics of the fuel or additive/%base% fuel mixture. Option B was found inappropriate because it would have allowed the grouping of...

...rule, gasoline formulations are defined as those containing more than 50 percent gasoline by volume. %Based% on current "substantially similar" criteria (see interpretative rule at 56 FR 5352), the sulfur content...

... by weight. The baseline gasoline category includes all gasoline fuels and additives (evaluated as additive/%base% fuel mixtures) meeting the above criteria.

The non-baseline gasoline category is comprised of F... diesel formulations in the diesel fuel family is limited to 0.05 percent by weight, %based% on current EPA limits (55 FR 34120).

The diesel fuel family includes both diesel 1...

... diesel baseline definition is consistent with existing information in EPA's F/FA registration data %base%, which indicates that most commercial diesel fuels, including their bulk additives, consist of carbon, hydrogen ... are defined according to the presence of differing constituents in the raw fuel or additive/%base% fuel mixture. The number of groups in a particular F/FA category depends on the...

... in required emission characterization and health effects tests for each baseline group is the designated %base% fuel for the respective fuel family (see Section V). For example, all gasoline formulations meeting...

... criteria are sorted into one group, to be represented in testing by the designated gasoline %base% fuel. The same holds true for diesel, ethanol, methane, and propane fuel families. In the...

... performed on two representatives, one for each of the designated baseline groups, i.e., M100 %base% fuel and M85 %base% fuel.

Groups within the Non-Baseline Categories. Non-baseline categories are defined for each fuel...
... baseline groups are defined according to the constituent(s) that differentiate the fuel or additive/%base% fuel mixture from the baseline products in the respective fuel family. The representative for each...the methanol/gasoline mixture.

Within each non-baseline gasoline group, a formulation consisting of the %base% gasoline fuel blended with the highest weight percent of the oxygenate or methanol/co- solvent...

... comply with the program's requirements. The selection of the group representative is to be %based% on the highest actual concentration- in-use or the highest recommended concentration-in-use, whichever... or by participating in four applicable groups. In each group, a formulation consisting of the %base% gasoline fuel blended with the highest concentration of the oxygenate listed for any member fuel or additive/ %base% fuel mixture would serve as the group representative to be tested to comply with the... to be used in testing will be a formulation {pg 33062} consisting of the diesel %base% fuel blended with the highest actual or recommended concentration-in-use of the particular alcohol...

...alkyl esters represented in the group. The alkyl ester is to be added to the %base% diesel fuel for conducting the required emission characterization and toxicity tests.

EPA recognizes that current... other atypical element, then this atypical fuel will group with other gasoline fuels or additive/%base% fuel mixtures containing sodium as their only atypical constituent. However, if a gasoline fuel contains...

... used in satisfying the group's testing requirements will be the member fuel or additive/%base% fuel mixture with the highest actual or recommended concentration-in-use of the atypical constituent...EPA recognizes that some Agency involvement might be needed in some special cases. When appropriate, %based% on EPA's discretion, the Agency will provide limited guidance for those manufacturers needing assistance... has been lengthened from the originally proposed five years in response to public comments.

V. %Base% Fuel Specifications and Formulation Requirements

In this final rule, EPA is establishing chemical a... physical specifications to represent %base% fuel formulations for each defined fuel family. EPA has adopted the method proposed in the...

... averages of fuel survey data to determine national average chemical and physical parameters, to establish %base% fuel specifications for gasoline and diesel. Because comparable survey data are not available for alternative fuels, the %base% fuels for the alternative fuel families are %based% on CARB definitions and limited survey information.

The generic %base% fuel formulations will function as archetypes of the F/FAs in each fuel family and...

... for the baseline group(s) for the respective fuel family. The use of consistently formulated %base% fuels will facilitate the comparison of the emission and health effect test results from the many fuel and fuel additive products within each fuel family. The %base% fuels will also serve as the fuel substrates into which additives undergoing evaluation will be mixed prior to emission generation and testing. Tests conducted on the emissions of the %base% fuel will then serve as controls against which tests on the emissions of the additive/%base% fuel mixture will be compared.

In addition to defining chemical and physical parameters for each %base% fuel, EPA is also specifying the allowable additive(s) to be included in the %base% fuel. EPA recognizes that commercial fuels typically contain additives to control fuel quality and enhance...
... order to better isolate the health effects associated with a particular additive or fuel, the %base% fuel would not contain additives unless they were the actual test subjects. However, several bulk...

... within a given fuel family, and these should arguably be included as part of the %base% fuel. As a practical matter, it would be difficult in some instances to find a...

... additive types used by refiners to facilitate production or distribution. EPA is thus requiring that %base% fuels contain a limited complement {pg 33064} of the additives which are essential for the...

... it is important to specify the additive types which are to be contained in the %base% fuels. However, the selection of the specific product within each specified additive functional category is left to the formulator of the %base% fuel and/or the manufacturer responsible for the testing. Unless otherwise restricted, the presence of...

...not preclude the use of a fuel or fuel additive as a component of a %base% fuel.

Additive requirements for each defined %base% fuel are discussed in the following sections. Additives used as %base% fuel components are to be added at the minimum treatment rate needed for effective performance. In contrast, additives to be tested must be mixed in the %base% fuel at the maximum in-use concentration recommended by their manufacturers. fn 19 When a fuel additive is tested, any additive normally contained in the %base% fuel which serves the same function as the test subject additive must be removed from the %base% fuel formulation. For example, if a corrosion inhibitor is to be tested, this test additive would replace the corrosion inhibitor normally included as a component in the %base% fuel. This substitution requirement may preclude the use of certain multi-functional additives as %base% fuel components (in the case where the subject additive serves one of the functions of...

...are discussed in Section VI.F.

Note: The specifications in the following sections describe the %base% fuel(s) for each fuel family, which serve the test fuel functions discussed above. These %base% fuel specifications are not the same as the criteria which permit F/FAs to join...

...criteria are provided in the preceding section of this preamble.
A. Gasoline

For the gasoline %base% fuel, EPA is requiring the use of the reformulated gasoline summer baseline fuel as specified...

... fuel survey data and will be used to represent all grades of conventional gasoline. This %base% fuel has the same specifications as the industry average gasoline used in many recent fuel...

...Program fn 20 and EPA's reformulated gasoline testing program. Selecting this formulation as the %base% gasoline fuel allows the comparison of emission characterization results from the F/FA testing program with a larger body of current emission data. The blending tolerances for the gasoline %base% fuel are consistent with certain blending tolerances specified in the RFG rule (59 FR 7716...

...December 1990; available in Docket A-90-07, Item No. IV-A-08.

The gasoline %base% fuel must contain the following additives: deposit control, corrosion inhibitor, demulsifier, anti-oxidant, and metal...

... required additives, the final rule allows manufacturers to use anti-static additives in the gasoline %base% fuel, if needed. Anti- static additives are not required in gasoline %base% fuel because this type of additives is not considered essential for the fuel's production...

... e.g., when static problems present a risk of explosion). The required and permissible gasoline %base% fuel additives may contain no elements in addition to carbon, hydrogen, oxygen, nitrogen, and/or...

... Reopening Notice, EPA proposed to preclude the use of sulfur-containing additives in the gasoline %base% fuel. However, in response to a number of comments from the regulated industry, this final...

... 15 ppm sulfur to be included in the additives. The total sulfur content in the %base% fuel, including any sulfur contributed by the additive components, must equal 339 ppm (within a tolerance of 25 ppm). A summary of the gasoline %base% fuel specifications and its additive components is provided in the accompanying regulations see Table F94...

...Diesel

Reflecting its predominant usage, 2 diesel is selected in this final rule as the %base% fuel for diesel. The specifications for the diesel %base% fuel were determined by calculating an industry average diesel fuel from 1990 industry and government...

... contained in the docket for this rulemaking. fn 21 The blending tolerances for the diesel %base% fuel have been set to be comparable to those used in the gasoline %base% fuel. An exception to this general methodology is the %base% fuel specification for sulfur level. The required sulfur level (0.05 weight percent) reflects current...

... from James Greaves to Docket A- 90-07 (Item No. IV-B-01) regarding "Revised %Base% Diesel Fuel Determination Procedures for the Fuels and Fuel Additives Rulemaking."

The additives required as diesel %base% fuel components are: corrosion inhibitor, demulsifier, anti-oxidant, and metal deactivator. In addition to the...

... final rule allows the use of anti-static and flow improver additives in the diesel %base% fuel, as needed. As with gasoline, anti-static additives are not required because they should...

...be used on a need basis to improve cold weather handling.
As in the gasoline %base% fuel, the diesel %base% fuel additives may contain sulfur, as well as carbon, hydrogen, oxygen, and nitrogen. The total sulfur content in the diesel %base% fuel formulation, including any sulfur contributed by the additives, may not exceed 0.05 percent by weight. A summary of the diesel %base% fuel specifications and allowed additive components is provided in the regulatory text see Table F94...

...c) .

C. Alternative Fuels

EPA has used CARB definitions and other available information to establish %base% fuel specifications for each alternative fuel family (... it is the responsibility of the F/FA manufacturers who are required to test such %base% fuels (in consultation with EPA), to comply with the additive requirements of the manufacturer of...

... should submit a request to EPA to use those additional additives as components of the %base% fuel at the minimal effective level. EPA will publish a document in the Federal Register whenever {pg 33065} approving such a request to modify a %base% fuel.
1. Methanol

The methanol fuel family contains two fuel groups, one for M100 fuels and one for M85 fuels. Each of these methanol groups has its own %base% fuel. These %base% fuels may only contain the elements carbon, hydrogen, oxygen, nitrogen, sulfur, and chlorine. The chlorine...

...by mass. The sulfur content may not exceed 0.002 percent by mass in the %base% M100 fuel and may not exceed 0.004 percent by mass in the %base% M85 fuel.

The M100 %base% fuel must consist of 100 percent chemical grade methanol by volume. The M85 %base% fuel is to contain 85 percent chemical grade methanol by volume, blended with 15 volume percent %base% gasoline fuel (meeting the gasoline %base% fuel specifications outlined in Section V.A., above). Specifications for the methanol %base% fuels are listed in Table F94-3 in Sec. 79.55(d) of the regulations...

... lubricating oils as well as fuel additives used in the gasoline portion of the M85 %base% fuel.

2. Ethanol
The ethanol fuel family contains one group, represented by E85 %base% fuel. The E85 %base% fuel is to contain 85 percent chemical grade ethanol by volume, blended with 15 volume percent %base% gasoline. The ethanol %base% fuel may only contain the elements carbon, hydrogen, oxygen, nitrogen, sulfur, chlorine, and copper. The 07 mg/L.

Additives used in the gasoline component of E85 %base% fuel must be ethanol-compatible. The %base% fuel specifications for E85 are summarized in Table F94-4 in Sec. 79.55(e...

...the regulatory text.

3. Methane

The methane fuel family is represented by a natural gas %base% fuel whose specifications are within the proposed ranges for natural gas certification fuel (as proposed in 57 FR 52912). This %base% fuel may only contain the elements carbon, hydrogen, oxygen, nitrogen, and sulfur, with the sulfur limited to 16 parts per million (by volume). The methane %base% fuel must contain added odorant for leak detection purposes, used at a level such that...
...limit of flammability.

In the Reopening Notice, EPA proposed that any sulfur in the methane, %base% fuel be limited to that contained in the odorant additive. In response to public comment, this restriction has been removed; however, the total sulfur in the methane %base% fuel formulation, including that contributed by any additives, may not exceed 16 parts per million. The methane %base% fuel specifications are listed in Table F94-5 in Sec.

79.55(f) of the accompanying regulations.

4. Propane

The propane fuel family is represented by a commercial LPG %base% fuel. The propane %base% fuel may only contain the elements carbon, hydrogen, oxygen, nitrogen, and sulfur, with the sulfur limited to 123 ppm (by weight). The propane %base% fuel must contain added odorant, for leak detection purposes, at a level such that at...

... one-fifth) of the lower limit of flammability. As in the case of the methane %base% fuel, the final rule does not require the sulfur in the formulation to be contained...
... additive. Rather, the sulfur limitation applies to the fuel/additive mixture in combination. The propane %base% fuel specifications are listed in Table F94-6 in Sec. 79.55(g) of the...substance will vary depending on the emission characteristics of the engine and fuel or additive/%base% fuel mixture, and on the requirements of the biological test protocol. If an insufficient amount...FTP exhaust, prior to exposing the test animals. This chamber must meet certain performance specifications %based% on the average concentration of total hydrocarbons in the exhaust. That is, the average concentration... the desired biological exposure concentrations. In testing the emissions of a particular fuel or additive/%base% fuel mixture, a manufacturer shall determine an optimum range of dilutions with which to characterize... RVP criteria which determine the applicability of evaporative emission testing to specific fuels and additive/%base% fuel mixtures. Evaporative emissions from in-use vehicles include diurnal, hot soak, resting and running...

... vessel to which heat is applied to cause a portion of the fuel or additive/%base% fuel mixture to evaporate at a desired rate. Manufacturers will have flexibility in the design...

... in the non-evaporated portion. The concentration of emissions of the evaporated fuel or additive/%base% fuel mixture in the vapor space of the EEG during ... the equilibrium concentration in the vapor space of emissions generated from fresh fuel or additive/%base% fuel mixture in the evaporative chamber.

EPA recognizes that other methods may also be suitable...

... suggested in a comment received by EPA in response to the Reopening Notice. fn 38 %Based% on the distillation properties of the test formulation, the suggested method would involve the distillation...

...higher concentrations than combustion emissions. Verification testing is required for evaporative emissions in a manner %analogous% to the {pg 33069} verification testing performed for combustion emissions.

D. Vehicle Selection

EPA is the fuel or additive/%base% fuel mixture to be tested.

EPA is also requiring that vehicles and engines used for...

... of the model year in which testing begins. However, vehicle selection criteria are to be %based% on technology characteristics of the previous model year. Any one of the top five selling models (%based% on sales figures from the year prior to testing) with the appropriate technology in a...

...FAs in additional vehicles or engines, under Tier 3, if there is concern for technology-%based% differences in toxicological effects. Furthermore, EPA could require the use of catalyzed exhaust to perform...period in which the vehicle (or engine) is run exclusively on the fuel or additive/%base% fuel mixture to be tested. The mileage accumulation requirements of this final rule follow the...the fuel is ultimately intended), EPA also requires that the additive be added to the %base% fuel at the maximum concentration recommended by the additive manufacturer for treatment of the fuel...

...those produced exclusively for use in 1 diesel fuels) be tested on the 2 diesel %base% fuel (specified in Section V). If a manufacturer is concerned that the emissions generated using a blend of their 1 diesel fuel additive with the 2 diesel %base% fuel may be subject to artifacts due to this blending, then that manufacturer may submit...

... health and welfare, (2) a chemical analysis to characterize the emissions of fuels or additive/%base% fuel mixtures, and (3) a qualitative discussion of potential exposures using information on total production volume and market distribution patterns of the particular fuel(s) or additive/%base% fuel mixture(s).

A. Literature Search

1. Scope

The registration program requires

F/FA manufacturers... subject to peer review. A search of appropriate commercially available chemical, toxicological, and environmental data %bases% must be conducted to obtain information from published sources. An example list of commercially available data %bases% that may be used to obtain information on potential health and environmental effects, as well ...

...Figueroa to Docket A-90-07 (Item No. IV-B-03) regarding "List of Data %Bases%."

In the NPRM, EPA proposed that literature searches cover at least fifteen years. However, in...
... findings and conclusions, including references, (2) a printed copy of the outputs from the data %base% searches, including reference list and associated abstracts, (3) complete documentation in scientific journal format of... search be conducted on each of the emission products of the tested fuel or additive/%base% fuel mixture. Because of the substantial overlap in the emission species of F/FAs in...be available from private sources, in-house testing, or from publicly available literature or data %bases%. For example, emission characterization data for baseline gasoline are expected to be available in published literature from studies sponsored by the Auto/Oil Program. fn 42 The data %base% "SPECIATE" might also be useful in identifying baseline emissions species for gasoline. fn 43 Other ...

...may be obtained from other Auto/Oil publications.

fn 43 "SPECIATE-VOC/PM Speciation Data %Base% Management System," Version 1.5, EPA-454/C-93-013, October 1992. This data %base% can be obtained electronically from the CHIEF Bulletin Board System (modem phone no. 919-541-5742). For information on this data %base%, call 919-541-5285 (INFO CHIEF).

fn 44 Published by National Academic Press, Washington, DC...below).

fn b Required if alcohols or ethers exist in the uncombusted fuel or additive/%base% fuel mixture.

fn c Includes specific polycyclic aromatic hydrocarbons (PAHs), nitrated polycyclic aromatic hydrocarbons (NPAHs... composed primarily of hydrocarbon compounds of twelve carbons (C12) or less (e.g., gasoline) are %based% on such methodology. fn 48, 49, 50 Where applicable, EPA will accept results from the...the term "basic emissions" is used for all F/FA families included in this rule. %Based% on the current regulated emissions and taking into consideration the objectives of this program, EPA...

... are to be characterized for both evaporative and combustion emissions, whenever the fuel or additive/%base% fuel mixture under evaluation contains alcohols or ethers. If a F/FA formulation contains an...left to the manufacturer. However, the procedures used must be state-of-the-art and %based% on sound analytical chemistry principles applicable to the atypical element or compound of concern.

3...a completed questionnaire in which equipment and procedural information is described. EPA might make recommendations %based% on the submitted information and/or might follow up with a visit to observe the...
... purpose, today's rule requires manufacturers to provide a qualitative discussion of potential population exposures %based% on the production and use of the particular fuel or additive (or group of F...

... manufacturers more exhaustive exposure analysis for particular products of concern under Tier 3 (including modeling), %based% on the EPA evaluation of Tier 1 and Tier 2 results or other available information...are included in Sec. 79.60. As proposed in the NPRM, the GLP standards are %based% on those published in 40 CFR part 792 (revised as of July 1, 1992) for...

...and Concentrations

With the exception of the Salmonella assay, the Tier 2 testing program is %based% on the inhalation exposure of laboratory animals to diluted whole emissions. Such studies require an...

...79.61 of this rule.

Before testing the emissions of a particular fuel or additive/%base% fuel mixture, a manufacturer must determine an appropriate range of exposure concentrations to be used...rationale for using these tests for the assessment of potential mutagenic and carcinogenic effects is %based% on the general assumption that cancer is a multi-stage process involving a variety of...rodents will be exposed by inhalation to the emissions of the particular fuel or additive/%base% fuel mixture (this assay is applicable to the evaluation of both combustion and evaporative emissions...

... blood lymphocytes will then be isolated and cultured. The cells will be treated with a %DNA% %base% %analog% (bromodeoxyuridine, BrdU) and with a spindle inhibitor such as colchicine. After appropriate staining for labeled %DNA%, SCEs will be scored from cells arrested in the second mitotic division and the results...be in vivo) Chromatid
Chromatid Exchange (SCE),
Exchange assay Chromosomal
Aberrations
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?t s5/3/1-15

5/3/1 (Item 1 from file: 440)
DIALOG(R)File 440:Current Contents Search(R)
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09310666 GENUINE ARTICLE#: ZA977 NO. REFERENCES: 51
TITLE: A mechanism-%based%, solution-phase method for screening %combinatorial% mixtures of potential platinum anticancer drugs
AUTHOR(S): Sandman KE; Fuhrmann P; Lippard SJ
CORPORATE SOURCE: MIT,DEPT CHEM/CAMBRIDGE//MA/02139 (REPRINT); MIT,DEPT CHEM/CAMBRIDGE//MA/02139
PUBLICATION TYPE: JOURNAL
PUBLICATION: JOURNAL OF BIOLOGICAL INORGANIC CHEMISTRY. 1998. V3. N1 (FEB)
. P74-80
PUBLISHER: SPRINGER VERLAG, 175 FIFTH AVE, NEW YORK, NY 10010
ISSN: 0949-8257
LANGUAGE: English DOCUMENT TYPE: ARTICLE (ABSTRACT AVAILABLE)

5/3/2 (Item 2 from file: 440)
DIALOG(R)File 440:Current Contents Search(R)
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04902271 GENUINE ARTICLE#: MA379 NO. REFERENCES: 88
TITLE: MECHANISMS OF CARCINOGENICITY OF METHYL HALIDES
AUTHOR(S): BOLT HM; GANSEWENDT B
CORPORATE SOURCE: UNIV DORTMUND,INST ARBEITSPHYSIOL,ARDEYSTR 67/D-44139
DORTMUND 1//GERMANY/ (Reprint)
PUBLICATION: CRITICAL REVIEWS IN TOXICOLOGY, 1993, V23, N3, P237-253
ISSN: 1040-8444
LANGUAGE: ENGLISH DOCUMENT TYPE: REVIEW (Abstract Available)

5/3/3 (Item 1 from file: 149)
DIALOG(R)File 149:IAC(SM)Health&Wellness DB(SM)
(c) 1998 Info Access Co. All rts. reserv.

01119250 SUPPLIER NUMBER: 04685857 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Splicing of messenger %RNA% precursors. (involves formation of spliceosome)
Sharp, Phillip A.
Science, v235, p766(6)
Feb 13, 1987
PUBLICATION FORMAT: Magazine/Journal ISSN: 0036-8075 LANGUAGE: English
RECORD TYPE: Fulltext TARGET AUDIENCE: Academic
WORD COUNT: 5026 LINE COUNT: 00528

5/3/4 (Item 1 from file: 434)
DIALOG(R)File 434:Scisearch(R) Cited Ref Sci
(c) 1998 Inst for Sci Info. All rts. reserv.

16175504 Genuine Article#: YH012 No. References: 49
Title: Targeting chimeric alpha,beta-oligonucleotides to the flanks of a stem in %DNA%. The enhanced effect of an intercalator
Author(s): Khattab AF; Pedersen EB (REPRINT)
Corporate Source: ODENSE UNIV,DEPT CHEM, CAMPUSVEJ 55/DK-5230 ODENSE M//DENMARK/ (REPRINT); ODENSE UNIV,DEPT CHEM/DK-5230 ODENSE M//DENMARK/
Journal: ACTA CHEMICA SCANDINAVICA, 1997, V51, N12 (DEC), P1245-1252
ISSN: 0904-213X Publication date: 19971200
Publisher: MUNKSGAARD INT PUBL LTD, 35 NORRE SOGADE, PO BOX 2148, DK-1016
COPENHAGEN, DENMARK
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

5/3/5 (Item 2 from file: 434)
DIALOG(R)File 434:Scisearch(R) Cited Ref Sci
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15547729 Genuine Article#: WP583 No. References: 57
Title: Decoding fidelity at the ribosomal A and P sites: Influence of mutations in three different regions of the decoding domain in 16S rRNA
Author(s): OConnor M (REPRINT) ; Thomas CL; Zimmermann RA; Dahlberg AE
Corporate Source: BROWN UNIV,JW WILSON LAB, DEPT MOL & CELL BIOL & BIOCHEM,
BOX G/PROVIDENCE//RI/02912 (REPRINT); UNIV MASSACHUSETTS,DEPT BIOCHEM &
MOL BIOL/AMHERST//MA/01003; UNIV MASSACHUSETTS,PROGRAM MOL & CELLULAR
BIOL/AMHERST//MA/01003
Journal: NUCLEIC ACIDS RESEARCH, 1997, V25, N6 (MAR 15), P1185-1193
ISSN: 0305-1048 Publication date: 19970315
Publisher: OXFORD UNIV PRESS UNITED KINGDOM, WALTON ST JOURNALS DEPT.
OXFORD, ENGLAND OX2 6DP
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

5/3/6 (Item 3 from file: 434)
DIALOG(R)File 434:Scisearch(R) Cited Ref Sci
(c) 1998 Inst for Sci Info. All rts. reserv.

08867521 Genuine Article#: P0491 No. References: 35
Title: °oCOMBINATORIAL% CASSETTE MUTAGENESIS AS A PROBE OF THE INFORMATIONAL
CONTENT OF PROTEIN SEQUENCES
Author(s): REIDHAAROLSON JF; SAUER RT
Corporate Source: MIT,DEPT BIOL/CAMBRIDGE//MA/02139
Journal: SCIENCE, 1988, V241, N4861, P53-57
Language: ENGLISH Document Type: ARTICLE

5/3/7 (Item 1 from file: 148)
DIALOG(R)File 148:IAC Trade & Industry Database
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09426195 SUPPLIER NUMBER: 19311583 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Hybridon Issued Patent for Novel Reagent to Speed the Synthesis of Synthetic %DNA%
PR Newswire, p415NETU006
April 15, 1997
LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 923 LINE COUNT: 00081

5/3/8 (Item 2 from file: 148)
DIALOG(R)File 148:IAC Trade & Industry Database
(c) 1998 Info Access Co. All rts. reserv.

05201094 SUPPLIER NUMBER: 10463221 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Polymer science at U of T's Chemistry Department. (University of Toronto Plastics in Canada: the state of the art) (Cover Story)
Guillet, James, E.
Canadian Chemical News, v43, n1, p28(3)
Jan, 1991
DOCUMENT TYPE: Cover Story ISSN: 0823-5228 LANGUAGE: ENGLISH
RECORD TYPE: FULLTEXT
WORD COUNT: 2280 LINE COUNT: 00196

5/3/9 (Item 1 from file: 669)
DIALOG(R)File 669:Federal Register
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00510660
Fuels and Fuel Additives Registration Regulations
Vol. 59, No. 122
Part II
59 FR 33042
Monday, June 27, 1994

5/3/10 (Item 2 from file: 669)
DIALOG(R)File 669:Federal Register
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00439643
Air Contaminants
Vol. 57, No. 114
Part II
57 FR 26002
Friday, June 12, 1992

5/3/11 (Item 3 from file: 669)
DIALOG(R)File 669:Federal Register
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00419776
Occupational Exposure to Methylene Chloride
Vol. 56, No. 216
Part II
56 FR 57036
Thursday, November 7, 1991

5/3/12 (Item 1 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
(c) format only 1998 Dialog Corporation. All rts. reserv.

05982921 87163006
The relationship between benzo(a)pyrene diol-epoxide-%DNA% %adducts% and mutagenicity in the CHO/HPGRT assay.
Recio L; Shugart LR; Hsie AW
Fundam Appl Toxicol (UNITED STATES) Feb 1987, 8 (2) p243-52, ISSN 0272-0590 Journal Code: FAB
Languages: ENGLISH
Document type: JOURNAL ARTICLE

5/3/13 (Item 1 from file: 98)
DIALOG(R)File 98:General Sci Abs/Full-Text
(c) 1998 The HW Wilson Co. All rts. reserv.

03264200 H.W. WILSON RECORD NUMBER: BGSI96014200 (USE FORMAT 7 FOR
FULLTEXT)
An introduction to molecular linguistics.
Bralley, Patricia
BioScience (BioScience) v. 46 (Feb. '96) p. 146-53
DOCUMENT TYPE: Feature Article
SPECIAL FEATURES: bibl il ISSN: 0006-3568
LANGUAGE: English
COUNTRY OF PUBLICATION: United States
WORD COUNT: 6608

5/3/14 (Item 1 from file: 156)
DIALOG(R)File 156:Toxline(R)
(c) format only 1998 The Dialog Corporation. All rts. reserv.

02152843 Subfile: BIOSIS-93-33176
Enhancing effects of heterocyclic amines and beta-carbolines on the induction of chromosome aberrations in cultured mammalian cells.
SASAKI YF; YAMADA H; SHIMOI K; KINAE N; TOMITA I; MATSUMURA H; OHTA T;
SHIRASU Y
c/o New Product Dev. Cent., Pfizer Pharm. Inc., Taketoyo 5, Chita-gun, Aichi 470-23, Jpn.
Source: MUTAT RES; 269 (1). 1992. 79-95. Coden: MUREA
Language: ENGLISH
BIOSIS COPYRIGHT: BIOL ABS.

5/3/15 (Item 1 from file: 442)
DIALOG(R)File 442:AMA Journals
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00082510
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What the Double Helix (1953) Has Meant for Basic Biomedical Science A Personal Commentary (ARTICLE)

LEDERBERG, JOSHUA
JAMA, The Journal of the American Medical Association

April 21, 1993; 15: p1981
LINE COUNT: 00494
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$0.66 Estimated cost File636
$0.12 0.002 Hrs File370
$0.12 Estimated cost File370
$0.42 0.014 Hrs File159
$0.42 Estimated cost File159
$0.42 0.014 Hrs File156
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$3.33 Estimated cost File652
$1.71 0.019 Hrs File73
$1.71 Estimated cost File73
$0.18 0.003 Hrs File442
$1.95 1 Type(s) in Format 3
$1.95 1 Types
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$1.17 0.013 Hrs File72
$1.17 Estimated cost File72
$0.90 0.015 Hrs File5
$0.90 Estimated cost File5
$0.00 0.001 Hrs File390
$0.00 Estimated cost File390
$0.60 0.010 Hrs File55
$0.60 Estimated cost File55
$0.66 0.011 Hrs File649
$0.66 Estimated cost File649
$0.18 0.003 Hrs File211
$0.18 Estimated cost File211
$0.00 0.000 Hrs File449
$0.00 Estimated cost File449
$0.30 0.005 Hrs File9
$0.30 Estimated cost File9
$0.66 0.011 Hrs File76
$0.66 Estimated cost File76
OneSearch, 24 files, 0.400 Hrs FileOS
$76.35 Estimated cost this search
$87.87 Estimated total session cost 0.789 Hrs.
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$%^Other;HighlightOn=**;HighlightOff=**;
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=> s scaffolds (p) purin###### or pyrimid####

      760 SCAFFOLDS
     7001 PURIN######
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    22020 PYRIMID####
L1    22020 SCAFFOLDS (P) PURIN###### OR PYRIMID####

=> s scaffolds (p) (purin###### or pyrimid####)

      760 SCAFFOLDS
     7001 PURIN######
    22020 PYRIMID####
L2        1 SCAFFOLDS (P) (PURIN###### OR PYRIMID####)

=> d cit fd ab hit


1. 5,646,285, Jul. 8, 1997, Combinatorial non-peptide libraries; Nand
Baindur, et al., 546/298; 548/556 [IMAGE AVAILABLE]

US PAT NO:  5,646,285 [IMAGE AVAILABLE]          L2: 1 of 1
DATE FILED:  Jun. 7, 1995

ABSTRACT:
The present invention relates to an orthogonally-protected compound of
the formula: ##STR1## wherein PG.sub.1 is a first protecting group that
is unreactive to a chemistry used at another position within the
compound, and that is capable of selective removal without affecting
PG.sub.2 or linkage to a solid support; PG.sub.2 is a second protecting
group that is unreactive to a chemistry used at another position within
the compound, and that is capable of selective removal without affecting
PG.sub.1 or linkage to a solid support; Y is CH.sub.2 COOH, CH.sub.2
SO.sub.2 OH, CH.sub.2 PO.sub.2 ROH, CH.sub.2 Ph--COOH, CH.sub.2
Ph--SO.sub.2 OH, or CH.sub.2 Ph--PO.sub.2 ROH; R is H or a substituted or
unsubstituted alkyl, cycloalkyl, aryl, arylalkyl, heteroaryl, or
heteroarylalkyl; and n is 1 or 2. PG.sub.1 is preferably a carbamate
group, a trityl group, or a trifluoroacetyl group; and PG.sub.2 is
preferably an ester.

DETDESC:

DETD(21)

Other "biorecognition elements" may also be advantageously used to
create diverse peptidomimetic libraries using the scaffold approach. For
instance, nature uses two other building blocks, e.g., carbohydrates and
nucleotides, as oligomeric molecular recognition elements. Libraries of
carbohydrates may be an important source of molecular diversity, since,
in principle, oligosaccharides are capable of generating much greater
diversity than peptides and nucleotides. Oligonucleotides also represent
a feasible approach to creating diverse libraries of compounds. In
addition to translating such oligonucleotides to peptides, such libraries
also can be used to develop antisense leads or to identify
oligonucleotides that interact agonistically or antagonistically with
proteins. With oligonucleotides, sugar-phosphate bonds serve as a
"scaffold" on which **purine** and **pyrimidine** bases are arranged in a
sequence and in a topologically defined fashion. Non-nucleotide oligomers
that can present **purine** and **pyrimidine** bases on an alternative
backbone, such as peptide-nucleic acids (PNAS) or other appropriate
**scaffolds**, therefore represent another approach to peptidomimetic
drug design through combinatorial chemistry. Moreover, drug design that
is based on interactions with specific genomic elements will become a
more fertile area for study as sequencing of the human genome proceeds
and numerous therapeutic targets (both genomic and gene products) become
available.

=> s 5,646,285/pn

L3        1 5,646,285/PN
          (5646285/PN)

=> s l3 and purine or pyrimidine

     4076 PURINE
    12362 PYRIMIDINE
L4    12362 L3 AND PURINE OR PYRIMIDINE

=> s l3 and (purine or pyrimidine)

     4076 PURINE
    12362 PYRIMIDINE
L5        1 L3 AND (PURINE OR PYRIMIDINE)

=> d kwic

US PAT NO:  **5,646,285** [IMAGE AVAILABLE]      L5: 1 of 1

DETDESC:

DETD(21)

Other . . . to identify oligonucleotides that interact agonistically
or antagonistically with proteins. With oligonucleotides, sugar-phosphate
bonds serve as a "scaffold" on which **purine** and **pyrimidine** bases
are arranged in a sequence and in a topologically defined fashion.
Non-nucleotide oligomers that can present **purine** and **pyrimidine**
bases on an alternative backbone, such as peptide-nucleic acids (PNAS) or
other appropriate scaffolds, therefore represent another approach to
peptidomimetic. . .

=> s (scaffold#### or substituted) (p) (purin###### or pyrimid####)

     3814 SCAFFOLD####
   279372 SUBSTITUTED
     7001 PURIN######
    22020 PYRIMID####
L6    10412 (SCAFFOLD#### OR SUBSTITUTED) (P) (PURIN###### OR
PYRIMID##
##)

=> s l6 not cDNA

     8044 CDNA
L7    10239 L6 NOT CDNA

=> d l1-3


1. 5,741,935, Apr. 21, 1998, Preparation of organic pentafluorosulphur
compounds; Roy D. Bowden, et al., 568/74 [IMAGE AVAILABLE]

2. 5,741,912, Apr. 21, 1998, Methods for preparing heteroatom-bearing
ligands and metal complexes thereof; Kondareddiar Ramalingam, et al.,
548/341.1; 524/99, 107; 534/10, 14; 544/63, 98, 224, 336; 546/184;
548/100, 518; 564/253, 268 [IMAGE AVAILABLE]

3. 5,741,896, Apr. 21, 1998, O- or S- substituted
tetrahydronaphthalene derivatives having retinoid and/or retinoid
antagonist-like biological activity; Vidyasagar Vuligonda, et al.,
534/880; 560/100, 110; 562/440 [IMAGE AVAILABLE]

=> s (scaffold#### or substituted) (10a) (purin###### or pyrimid####)

     3814 SCAFFOLD####
   279372 SUBSTITUTED
     7001 PURIN######
    22020 PYRIMID####
L8     4907 (SCAFFOLD#### OR SUBSTITUTED) (10A) (PURIN###### OR
PYRIMID
###
          #)
```

=> s (scaffold#### or substituted) (4a) (purin###### or pyrimid####)

3814 SCAFFOLD####
279372 SUBSTITUTED
7001 PURIN######
22020 PYRIMID####
L9 2927 (SCAFFOLD#### OR SUBSTITUTED) (4A) (PURIN###### OR PYRIMID#
###
)

=> s l9 (p) (mix or mixt####)

100830 MIX
567744 MIXT####
L10 207 L9 (P) (MIX OR MIXT####)

=> s 1-5

L11 58959 1-5

=> d l10 1-5

1. 5,739,385, Apr. 14, 1998, Process for preparing optically active carboxylic acids; Bruce Armin Barner, et al., 562/418, 431 [IMAGE AVAILABLE]

2. 5,739,352, Apr. 14, 1998, Process for preparing carboxylic acids; Bruce Armin Barner, et al., 548/472; 549/71; 562/418, 460, 466, 496 [IMAGE AVAILABLE]

3. 5,731,314, Mar. 24, 1998, Pharamceutical compositions for prevention and treatment of tourette's syndrome; Merouane Bencherif, et al., 514/256, 277, 344, 357 [IMAGE AVAILABLE]

4. 5,728,575, Mar. 17, 1998, Method of resolution of 1,3-oxathiolane nucleoside enantiomers; Dennis C. Liotta, et al., 435/280, 118 [IMAGE AVAILABLE]

5. 5,726,316, Mar. 10, 1998, Pharmaceutical compositions for prevention and treatment of central nervous system disorders; Peter Anthony Crooks, et al., 546/311, 329 [IMAGE AVAILABLE]

=> s 3-5 kwic

39706 3-5
12 KWIC
L12 0 3-5 KWIC
(3-5(W)KWIC)

=> d l11 3-5 kwic

US PAT NO: 5,742,889 [IMAGE AVAILABLE] L11: 3 of 58959

SUMMARY:

BSUM(19)

In another embodiment, the possibly chain-lengthened perfluoropolyether oils are preferably terminated with ##STR3## where p=**1-5** and R.sub.1, R.sub.2 and R.sub.3 are jointly and independently chosen from H or a lower alkyl group, chosen from the. . .

CLAIMS:

CLMS(6)

6. . . . is derivatived with a compound from the group of acryloyl chlorides, isocyanate acrylates according to the molecular formula ##STR11## where p=**1-5** and R.sub.1, R.sub.2 and R.sub.3 are jointly and independently chosen from H or a lower alkyl group, chosen from the. . .

CLAIMS:

CLMS(9)

9. . . . is derivatived with a compound from the group of acryloyl chlorides, isocyanate acrylates according to the molecular formula ##STR13## where p=**1-5** and R.sub.1, R.sub.2 and R.sub.3 are jointly and independently chosen from H or a lower alkyl group, chosen from the. . .

CLAIMS:

CLMS(10)

10. . . . is derivatived with a compound from the group of acryloyl chlorides, isocyanate acrylates according to the molecular formula ##STR14## where p=**1-5** and R.sub.1, R.sub.2 and R.sub.3 are jointly and independently chosen from H or a lower alkyl group, chosen from the. . .

CLAIMS:

CLMS(11)

11. . . . is derivatived with a compound from the group of acryloyl chlorides, isocyanate acrylates according to the molecular formula ##STR15## where p=**1-5** and R.sub.1, R.sub.2 and R.sub.3 are jointly and independently chosen from H or a lower alkyl group, chosen from the. . .

US PAT NO: 5,742,806 L11: 4 of 58959

DETDESC:

DETD(827)

Since . . . may be less critical. If we aim to support decomposition for the former but not the latter (i.e. support cases **1-5**, 10, and 11, but not 6-9), then the ideal solution is to decompose queries with special privileges, but execute with. . .

US PAT NO: 5,742,799 [IMAGE AVAILABLE] L11: 5 of 58959

DETDESC:

DETD(2)

The present invention can be more fully described with reference to FIGS. **1-5**. FIG. 1 illustrates data processing system 10 according to one embodiment of the present invention. Data processor 5 receives system. . .

=> d l10 3-5 kwic

US PAT NO: 5,731,314 [IMAGE AVAILABLE] L10: 3 of 207

SUMMARY:

BSUM(23)

The . . . amine. In particular, certain metanicotine-type compounds can be prepared by subjecting a 3-halo substituted, 5-substituted pyridine compound or a 5-halo **substituted** **pyrimidine** compound to a palladium catalyzed coupling reaction using an olefin possessing a protected amine functionality (e.g., such an olefin provided. . . of different methods for providing (Z)-metanicotine-type compounds. In one method, (Z)-metanicotine-type compounds can be synthesized from nicotine-type compounds as a **mixture** of E and Z isomers; and the (Z)-metanicotine-type compounds can then be separated by chromatography using the types of techniques. . .

US PAT NO: 5,728,575 [IMAGE AVAILABLE] L10: 4 of 207

SUMMARY:

BSUM(17)

A process for the resolution of a racemic **mixture** of nucleoside enantiomers or their derivatives is disclosed that includes the step of exposing the racemic **mixture** to an enzyme that preferentially catalyzes a reaction in one of the enantiomers. The process can be used to resolve a wide variety of nucleosides, including pyrimidine and **purine** nucleosides that are optionally **substituted** in the carbohydrate moiety or base moiety. The process can also be used to resolve nucleoside derivatives that contain additional. . .

US PAT NO: 5,726,316 [IMAGE AVAILABLE] L10: 5 of 207

SUMMARY:

BSUM(23)

The . . . amine. In particular, certain metanicotine-type compounds can be prepared by subjecting a 3-halo substituted, 5-substituted pyridine compound or a 5-halo **substituted** **pyrimidine** compound to a palladium catalyzed coupling reaction using an olefin possessing a protected amine functionality (e.g., such an olefin provided. . . of different methods for providing (Z)-metanicotine-type compounds. In one method, (Z)-metanicotine-type compounds can be synthesized from nicotine-type compounds as a **mixture** of E and Z isomers; and the (Z)-metanicotine-type compounds can then be separated by chromatography using the types of techniques. . .

=> d his

(FILE 'USPAT' ENTERED AT 06:31:02 ON 23 APR 1998)
L1 22020 S SCAFFOLDS (P) PURIN###### OR PYRIMID####
L2 1 S SCAFFOLDS (P) (PURIN###### OR PYRIMID####)
L3 1 S 5,646,285/PN
L4 12362 S L3 AND PURINE OR PYRIMIDINE
L5 1 S L3 AND (PURINE OR PYRIMIDINE)
L6 10412 S (SCAFFOLD#### OR SUBSTITUTED) (P) (PURIN###### OR PYRIMI
D##
L7 10239 S L6 NOT CDNA
L8 4907 S (SCAFFOLD#### OR SUBSTITUTED) (10A) (PURIN######
OR PYRI
MID
L9 2927 S (SCAFFOLD#### OR SUBSTITUTED) (4A) (PURIN###### OR
PYRIM
ID#
L10 207 S L9 (P) (MIX OR MIXT####)
L11 58959 S 1-5
L12 0 S 3-5 KWIC

=> s l10 not (racemic (2w) (mix or mixt#####))

15523 RACEMIC
100830 MIX
567748 MIXT#####

7853 RACEMIC (2W) (MIX OR MIXT#####)
L13 178 L10 NOT (RACEMIC (2W) (MIX OR MIXT#####))

=> d 1-6

1. 5,739,352, Apr. 14, 1998, Process for preparing carboxylic acids; Bruce Armin Barner, et al., 548/472; 549/71; 562/418, 460, 466, 496 [IMAGE AVAILABLE]

2. 5,723,459, Mar. 3, 1998, Biologically active acylated amino acid derivatives; David M. Armistead, et al., 514/237.8, 261, 357, 538, 541; 544/162, 277; 546/335; 560/41 [IMAGE AVAILABLE]

3. 5,723,066, Mar. 3, 1998, Electrooptical liquid crystal system; David Coates, et al., 252/299.01, 299.65, 299.66, 299.67; 544/298, 335; 546/342; 560/59, 66, 221 [IMAGE AVAILABLE]

4. 5,721,356, Feb. 24, 1998, Orally active adenosine kinase inhibitors; Bheemarao G. Ugarkar, et al., 536/27.2, 27.21, 27.22, 27.62, 27.7 [IMAGE AVAILABLE]

5. 5,714,438, Feb. 3, 1998, Herbicidal 5-substituted pyrimidine compounds and derivatives thereof; David B. Kanne, et al., 504/239, 242, 243; 544/60, 122, 123, 296 [IMAGE AVAILABLE]

6. 5,707,996, Jan. 13, 1998, Pharmaceutical solution and methods for preparation thereof; Giovanni Parrinello, 514/256 [IMAGE AVAILABLE]

=> d 6 kwic

US PAT NO: 5,707,996 [IMAGE AVAILABLE] L13: 6 of 178

DETDESC:

DETD(39)

Preferably, the temperature of the **mixture** during and after the preparation process does not rise above about 45.degree. C. The preferred maximum temperature depends upon the amount of antimicrobial agents in the **mixture**. If the temperature of the **mixture** gets too high during preparation, then the **substituted** **pyrimidine** or sulfonamide can thermooxidize. If the temperature of the **mixture** is too low, then the antimicrobial agents will not quickly dissolve. The addition of an aqueous mineral acid or aqueous mineral hydroxide to the **mixture** can increase the **mixture**'s temperature. Therefore, the **mixture** may have to be cooled to avoid significant thermooxidation of the antimicrobial agents. However, the **mixture**, in accordance with the invention, should not be cooled to a point at which a precipitate forms. Solutions in accordance. . . prepared at room temperature without external heating. Continuous stirring is preferred while all of the components are added to the **mixture**.

=> d 7-30

7. 5,707,930, Jan. 13, 1998, 4-cycloalkyl-5-substituted pyrimidine compounds useful as crop protection agents; Raymond A. Felix, et al., 504/197, 219, 221, 225, 239, 242, 243; 544/58.6, 60, 122, 243, 296 [IMAGE AVAILABLE]

8. 5,696,051, Dec. 9, 1997, Synergistic herbicide combinations; Lothar Willms, et al., 504/130, 133, 134, 136 [IMAGE AVAILABLE]

9. 5,688,948, Nov. 18, 1997, Process for isomerizing acyclic nucleosides and process for separating purine nucleosides; Kunisuke Izawa, et al., 544/276, 264, 265, 267, 272, 277 [IMAGE AVAILABLE]

10. 5,681,957, Oct. 28, 1997, Process for the preparation of substituted 2-fluoro-pyrimidines; Erich Wolters, et al., 544/334, 122, 180, 217, 295, 296, 319, 320, 321, 326, 328, 329, 333, 335 [IMAGE AVAILABLE]

11. 5,677,307, Oct. 14, 1997, Substituted tetrahydro-5-nitro-pyrimidines; Ernst Rudolf Gesing, et al., 514/258; 544/279, 281 [IMAGE AVAILABLE]

12. 5,663,339, Sep. 2, 1997, Process for preparing 5-substituted pyrrolo-[2,3-D] pyrimidines; Charles J. Barnett, et al., 544/280 [IMAGE AVAILABLE]

13. RE 35,558, Jul. 8, 1997, (2R)-2-[di(2-propyl)phosphonyylmethoxy]-3-P-toluenesulfonyloxy-1-trimethylacetoxypropane, its preparation and use; Petr Alexander, et al., 544/244, 182, 243; 546/23; 558/45 [IMAGE AVAILABLE]

14. 5,646,128, Jul. 8, 1997, Methods for treating adenosine kinase related conditions; Gary S. Firestein, et al., 514/46, 45, 825, 885, 886 [IMAGE AVAILABLE]

15. 5,641,782, Jun. 24, 1997, 3-aromatic and 3-heteroaromatic substituted bisnaphthalimides; Jung-Hui Sun, et al., 514/256, 296; 544/335; 546/99, 100 [IMAGE AVAILABLE]

16. 5,623,782, Apr. 29, 1997, Maize resistant to aryloxyphenoxyalkanecarboxylic acid herbicides; Gunter Donn, 47/58; 800/200, 230, 235, DIG.58 [IMAGE AVAILABLE]

17. 5,620,981, Apr. 15, 1997, Pyrido [2,3-D]pyrimidines for inhibiting protein tyrosine kinase mediated cellular proliferation; Clifton J. Blankley, et al., 514/258; 544/279 [IMAGE AVAILABLE]

18. 5,620,971, Apr. 15, 1997, Biologically active acylated amino acid derivatives; David M. Armistead, et al., 514/212, 227.8, 231.5, 261, 300, 315, 316, 318, 326, 406, 422; 540/596, 597, 598, 599, 600, 601, 602; 544/58.4, 130, 277; 546/113, 189, 193, 199, 212, 213; 548/517, 572 [IMAGE AVAILABLE]

19. 5,618,928, Apr. 8, 1997, Triazenyl-substituted phenyl pyrimidines and their use in therapy; Malcolm F. G. Stevens, et al., 534/551; 424/408, 464; 534/555, 560, 565, 775 [IMAGE AVAILABLE]

20. 5,614,407, Mar. 25, 1997, Methods for ameliorating the adverse effects of aging; Suresh I. S. Rattan, 435/375, 377; 514/266, 844 [IMAGE AVAILABLE]

21. 5,612,286, Mar. 18, 1997, Herbicidal N-[pyrimidin-2-ly) aminocarbonyl]-benzenesulfonamides; Horst Mayer, et al., 504/214; 544/321 [IMAGE AVAILABLE]

22. 5,608,062, Mar. 4, 1997, Process for preparing trifluoromethyl ketones; Uwe D oller, et al., 544/238, 335; 546/298, 314, 315; 548/200, 333.5; 549/70 [IMAGE AVAILABLE]

23. 5,602,139, Feb. 11, 1997, Method for ameliorating the adverse effects of aging; Suresh I. S. Rattan, 514/261, 266, 844 [IMAGE AVAILABLE]

24. 5,563,269, Oct. 8, 1996, 2-alkoxy-4-hydrazinopyrimidine compounds and their use in the preparation of 5-alkoxy-1,2,4-triazolo(4,3-C)-pyrimidine-3 (2H)-thione compounds; Jon A. Orvik, et al., 544/263 [IMAGE AVAILABLE]

25. 5,543,075, Aug. 6, 1996, Liquid crystalline material; Owain L. Parri, et al., 252/299.01; 349/182; 428/1 [IMAGE AVAILABLE]

26. 5,525,720, Jun. 11, 1996, Synthesis of 2'-"up" fluorinated 2'-deoxy-arabinofuranosyl purines; Kyoichi A. Watanabe, et al., 536/27.11, 27.4, 27.6, 27.8, 27.81 [IMAGE AVAILABLE]

27. 5,502,271, Mar. 26, 1996, Maize resistant to aryloxyphenoxyalkanecarboxylic acid herbicides; Gunter Donn, 800/200; 47/58; 435/172.1, 413, 424; 800/235, 250, DIG.56 [IMAGE AVAILABLE]

28. 5,498,366, Mar. 12, 1996, Liquid crystal thiol compounds; Damien G. McDonnell, et al., 252/299.6, 299.61, 299.66; 349/182 [IMAGE AVAILABLE]

29. 5,486,310, Jan. 23, 1996, Liquid crystalline mixtures having a chiral tilted smectic phase; Richard Buchecker, et al., 252/299.61, 299.66; 349/182; 544/298; 546/339; 560/102 [IMAGE AVAILABLE]

30. 5,461,153, Oct. 24, 1995, 2-alkoxy-4-hydrazinopyrimidine compounds; Jon A. Orvik, et al., 544/317 [IMAGE AVAILABLE]

=> d hisd 31-50

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31. 5,461,019, Oct. 24, 1995, Synergistic herbicidal combinations, process for their preparation, and use of said compositions as herbicidal agents; Lothar Willms, et al., 504/130, 144 [IMAGE AVAILABLE]

32. 5,459,243, Oct. 17, 1995, Apparatus and processes for the large scale generation and transfer of diazomethane; Oscar Acevedo, et al., 534/565, 558 [IMAGE AVAILABLE]

33. 5,416,211, May 16, 1995, Process for preparing 5-substituted pyrrolo-[2,3-d]pyrimidines; Charles J. Barnett, et al., 544/280; 556/441; 560/51 [IMAGE AVAILABLE]

34. 5,416,204, May 16, 1995, Method for preparing 2'-3'-dideoxy-.beta.-nucleosides using 2,2-dideoxy-di(organothio)-pentofuranose intermediates; Hiroshi Kawakami, et al., 536/28.2, 28.5, 28.51, 28.52, 28.53, 28.54, 28.55 [IMAGE AVAILABLE]

35. 5,414,007, May 9, 1995, Acetylenes disubstituted with a thiazole group and a substituted phenyl group having retinoid like activity; Roshantha A. S. Chandraratna, 514/365; 548/202, 203, 204 [IMAGE AVAILABLE]

36. 5,412,088, May 2, 1995, 6-O-substituted guanosine derivatives; Roger A. Jones, et al., 536/27.81, 24.3, 25.3 [IMAGE AVAILABLE]

37. 5,384,065, Jan. 24, 1995, Matrix liquid-crystal display; Thomas Geelhaar, et al., 252/299.63, 299.01; 349/186; 570/127, 186 [IMAGE AVAILABLE]

38. 5,380,460, Jan. 10, 1995, Ferroelectric liquid crystal compounds containing chiral haloalkoxy tail units and compositions containing them; Michael D. Wand, et al., 252/299.6, 299.61, 299.66, 299.67; 544/224, 298, 335; 546/339, 340; 548/136; 568/631, 647 [IMAGE AVAILABLE]

39. 5,371,089, Dec. 6, 1994, Method and composition for ameliorating the adverse effects of aging; Suresh I. S. Rattan, 514/261, 266, 844 [IMAGE AVAILABLE]

40. 5,352,786, Oct. 4, 1994, Di(2-propyl)esters of 1-fluoro-2-phosphonomethoxy-3-P-to-luenesulfonyloxypropanes, their producing and utilization; Jindrich Jindrich, et al., 544/243, 244; 558/44, 45 [IMAGE AVAILABLE]

41. 5,344,464, Sep. 6, 1994, Oxidation dye composition containing at least one double base in combination with at least one single base and dyeing process making use of it; Annie Madrange, et al., 8/410, 407, 408, 411, 412, 416, 421 [IMAGE AVAILABLE]

42. 5,264,437, Nov. 23, 1993, Optionally substituted pyrido[2,3-d]pyridine-2,4(1H,3H)-diones and pyrido[2,]pyrimidine-2(1H,3H)-ones; Robert S. Wilhelm, et al., 514/258, 253; 544/238, 279 [IMAGE AVAILABLE]

43. 5,260,433, Nov. 9, 1993, Saccharide specific binding system labeled nucleotides; Dean Engelhardt, et al., 536/23.1; 435/6; 536/24.3, 25.32 [IMAGE AVAILABLE]

44. 5,242,619, Sep. 7, 1993, Liquid crystalline mixtures having a chiral tilted smectic phase; Richard Buchecker, et al., 252/299.6, 299.01, 299.61, 299.66; 560/76, 141 [IMAGE AVAILABLE]

45. 5,241,060, Aug. 31, 1993, Base moiety-labeled detectable nucleatide; Dean Engelhardt, et al., 536/25.32, 23.1, 25.6, 26.6 [IMAGE AVAILABLE]

46. 5,227,461, Jul. 13, 1993, Extended difunctional end-cap monomers; Hyman R. Lubowitz, et al., 528/322, 170, 172; 544/249, 250 [IMAGE AVAILABLE]

47. 5,225,555, Jul. 6, 1993, Processes for purification of 2,4-di(1-pyrrolidinyl)-6-chloropyrimidine; Bruce A. Pearlman, et al., 544/323, 122, 295, 296 [IMAGE AVAILABLE]

48. 5,214,523, May 25, 1993, Ferroelectric liquid crystal display device having monostabilized state as an initial state and continuous gray-scale; Keiichi Nito, et al., 349/173; 252/299.01; 349/133, 184, 188 [IMAGE AVAILABLE]

49. 5,210,077, May 11, 1993, Antibodies to cytokinins having a glycosylated isoprenoid side chain and immunoassay methods; David L. Brandon, et al., 530/388.21; 436/543; 514/25, 32; 530/350, 388.24, 388.5, 388.9, 389.1, 389.8, 403; 536/4.1, 17.3 [IMAGE AVAILABLE]

50. 5,175,233, Dec. 29, 1992, Multidimensional ester or ether oligomers with pyrimidinyl end caps; Hyman R. Lubowitz, et al., 528/170, 172, 288, 289, 290 [IMAGE AVAILABLE]

=> s l13 not (synthes##### (2w) (mix or mixt#####))

```
    161780 SYNTHES#####
    100830 MIX
    567748 MIXT#####
      2250 SYNTHES##### (2W) (MIX OR MIXT#####)
L14      173 L13 NOT (SYNTHES##### (2W) (MIX OR MIXT#####))
```

=> d l13 51-100

51. 5,169,850, Dec. 8, 1992, N-(dialkylamino)methylene)-substituted pyrazolo(1,5-a)-pyrimidine-3-carboxamides and N-(dialkylamino)methylene-substituted-4,5-dihydropyrazolo-(1,5-a)-pyrimidine-3-carboxamides; John P. Dusza, et al., 514/258; 544/281 [IMAGE AVAILABLE]

52. 5,145,812, Sep. 8, 1992, Molded articles formed of silicon nitride based ceramic and process for producing same; Mikiro Arai, et al., 501/96.2, 88, 92, 96.5 [IMAGE AVAILABLE]

53. 5,130,427, Jul. 14, 1992, (2R)-2-[di(2-propyl)phosphonylmethoxy]-3-p-toluenesulfonyloxy-1-trimethylacetoxypropane, its preparation and use; Petr Alexander, et al., 544/182, 243, 244; 546/23; 558/124, 179 [IMAGE AVAILABLE]

54. 5,130,421, Jul. 14, 1992, Production of 2',3'-dideoxy-2',3'-didehydronucleosides; John E. Starrett, Jr., et al., 536/28.1, 28.2, 28.3, 28.5, 28.53 [IMAGE AVAILABLE]

55. 5,112,939, May 12, 1992, Oligomers having pyrimidinyl end caps; Hyman R. Lubowitz, et al., 528/289, 170, 172, 288, 290 [IMAGE AVAILABLE]

56. 5,068,271, Nov. 26, 1991, Arylenediamine substituted pyrimidines compositions; Edward L. Wheeler, et al., 524/100, 92, 93, 95; 544/323 [IMAGE AVAILABLE]

57. 5,059,691, Oct. 22, 1991, N-((dialkylamino)methylene)-substituted pyrazolo (1,5-A)-pyrimidine-3-carboxamides and N-((dialkylamino)methylene)-substituted-4,5-dihydropyrazolo-(1,5-A)-pyrimidine-3-carboxamides; John P. Dusza, et al., 544/281 [IMAGE AVAILABLE]

58. 5,051,506, Sep. 24, 1991, Ferroelectric liquid crystal compounds containing chiral haloalkyoxy tail units and compositions containing them; Michael D. Wand, et al., 544/289; 252/299.01, 299.61, 299.65, 299.66, 299.67; 544/335; 560/73, 108, 109; 568/642, 643 [IMAGE AVAILABLE]

59. 5,047,406, Sep. 10, 1991, Substituted cyclohexanols as central nervous system agents; Bradley W. Caprathe, et al., 514/252, 227.8, 235.5, 235.8, 255, 318, 336, 340, 342; 540/596, 598, 601, 602, 603; 544/58.1, 58.6, 59, 60, 63, 114, 120, 121, 122, 124, 129, 130, 131, 133, 141, 145, 147, 152, 295, 333, 334, 335, 357, 360, 364, 369, 379, 392; 546/186, 193, 217, 256, 257, 268.1, 269.7, 272.1, 276.4, 280.4, 283.4, 284.7, 290, 300, 301, 337 [IMAGE AVAILABLE]

60. 5,041,542, Aug. 20, 1991, Substituted pyrimido[5,4-d]pyrimidine nucleosides; Roland K. Robins, et al., 536/27.13, 27.11 [IMAGE AVAILABLE]

61. 5,015,705, May 14, 1991, Polymerization feed composition comprising slow gel/cure systems based on dialkylzinc; Andrew Bell, 526/142; 502/102, 117; 526/119, 139, 141, 190, 281, 283 [IMAGE AVAILABLE]

62. 5,013,737, May 7, 1991, 2,4,8-Trisubstituted-3H,6H-1,4,5A,8A-tetraazaacenaphtylene-3,5-(4H)-diones and 2,4-8-trisubstituted-4,5-dihydro-5-thioxo-3H,6H-1,4,5A,8A-tetrazaacenaphthylen-3-ones; Shin S. Tseng, et al., 514/267; 544/251 [IMAGE AVAILABLE]

63. 5,003,096, Mar. 26, 1991, Preparation of substituted 1,2,4-triazolo[1,4-a]pyrimidine-2-sulfonanilides; Lennon H. McKendry, 556/410 [IMAGE AVAILABLE]

64. 4,994,464, Feb. 19, 1991, Piperazinylpyrimidines as .beta.-adrenergic receptor blockers; Richard L. Tolman, et al., 514/254; 544/255, 278 [IMAGE AVAILABLE]

65. 4,980,481, Dec. 25, 1990, End-cap monomers and oligomers; Hyman R. Lubowitz, et al., 548/435, 451, 455, 476, 524, 547 [IMAGE AVAILABLE]

66. 4,975,512, Dec. 4, 1990, Reformed polysilazane and method of producing same; Osamu Funayama, et al., 528/28; 525/474; 528/31, 38 [IMAGE AVAILABLE]

67. 4,963,552, Oct. 16, 1990, 1-substitute-1,2-dihydro-4-((substituted)phenyl)imidazo-[1,5-a]pyrimidine-8-carbonitriles; Shin S. Tseng, et al., 514/253, 233.2, 258; 544/117, 281 [IMAGE AVAILABLE]

68. 4,946,956, Aug. 7, 1990, Arylenediamine substituted pyrimidines; Edward L. Wheeler, et al., 544/323; 524/100; 544/296, 310, 312, 317, 324, 326, 327, 328, 329 [IMAGE AVAILABLE]

69. 4,935,424, Jun. 19, 1990, 4 or 5-(substituted piperazinylalkyl)-2-aminothiazoles as antipsychotic agents; Bradley W. Caprathe, et al., 514/252, 255, 256, 269, 274, 333, 342; 544/295, 316, 319, 333, 357, 364, 369, 379, 405; 546/256, 270.7 [IMAGE AVAILABLE]

70. 4,933,160, Jun. 12, 1990, Reformed, inorganic polysilazane; Osamu Funayama, et al., 423/324, 344 [IMAGE AVAILABLE]

71. 4,917,455, Apr. 17, 1990, Field-assisted fiber spinning for the preparation of optical fibers having non-linear optical activity; David S. Soane, 385/143, 122, 142 [IMAGE AVAILABLE]

72. 4,916,137, Apr. 10, 1990, 5-(Substituted-amino)-8-(phenyl or substituted-phenyl)-3H,6H-1,4,5A,8A-tetraazaacenaphthylen-3-ones and treatment of neural behavior disorders; Joseph W. Epstein, et al., 514/267, 212, 233.2; 540/600; 544/115, 251 [IMAGE AVAILABLE]

73. 4,910,306, Mar. 20, 1990, Preparation of substituted 1,2,4-triazolo[1,5-a]pyrimidine-2-sulfonanilides; Lennon H. McKendry, 544/263; 556/410 [IMAGE AVAILABLE]

74. 4,904,658, Feb. 27, 1990, Substituted-6H,8H-pyrimido-[1,2,3-cd]purine-8,10-(9H)-diones and substituted-6H,10H-pyrimido[1,2-cd]purin-10-ones; Shin S. Tseng, et al., 514/233.2, 267; 544/115, 251 [IMAGE AVAILABLE]

75. 4,889,856, Dec. 26, 1989, 7,8-dihydro-4-(1-pierazinyl)-6H-thiopyrano-[3,2-d] pyrimidines as .beta.-blockers; Richard L. Tolman, et al., 514/254; 544/255, 278; 549/28 [IMAGE AVAILABLE]

76. 4,883,798, Nov. 28, 1989, Pharmaceutical compositions; Lujza Petocz, et al., 514/256, 275 [IMAGE AVAILABLE]

77. 4,882,401, Nov. 21, 1989, Slow gel/cure systems based on dialkylzinc for dicyclopentadiene polymerization; Andrew Bell, 526/119; 264/328.2; 526/139, 141, 142, 190, 281, 282, 283 [IMAGE AVAILABLE]

78. 4,861,569, Aug. 29, 1989, Reformed, inorganic polysilazane and method of producing same; Osamu Funayama, et al., 423/324, 344 [IMAGE AVAILABLE]

79. 4,849,424, Jul. 18, 1989, Pyrimidine derivatives; Masazumi Ikeda, et al., 514/256, 269, 272, 273, 274, 275; 544/316, 317, 319, 320, 321, 324, 328, 331 [IMAGE AVAILABLE]

80. 4,849,130, Jul. 18, 1989, Liquid crystalline ethane derivatives, their preparation and the liquid crystal compositions containing same; Roman Dabrowski, et al., 252/299.61, 299.6, 299.62, 299.63, 299.66; 544/242, 294, 296, 298, 316, 335; 549/370, 372, 373; 558/17, 18, 19 [IMAGE AVAILABLE]

81. 4,840,741, Jun. 20, 1989, Ashless anti-wear additives; Morton Beltzer, et al., 508/256, 255, 259, 261, 266, 267 [IMAGE AVAILABLE]

82. 4,820,878, Apr. 11, 1989, Tolan-type nematic liquid crystalline compounds; Haruyoshi Takatsu, et al., 568/659; 252/299.63 [IMAGE AVAILABLE]

83. 4,814,523, Mar. 21, 1989, Nematic liquid crystal compound of four ring systems; Yasuyuki Tanaka, et al., 570/129; 252/299.5, 299.63 [IMAGE AVAILABLE]

84. 4,797,482, Jan. 10, 1989, Process for the preparation of oxazinobenzothiazine 6,6-dioxide derivatives; Jordi F. Constansa, et al., 544/33; 548/210 [IMAGE AVAILABLE]

85. 4,795,639, Jan. 3, 1989, Potentiating formulations; James J. Burchall, et al., 514/249, 258 [IMAGE AVAILABLE]

86. 4,794,109, Dec. 27, 1988, 6-hydroxy-lower alkylpenem compounds, pharmaceutical preparations that contain these compounds, and the use of the latter; Erfinders M. Lang, 514/192, 195; 540/310; 987/368 [IMAGE AVAILABLE]

87. 4,754,051, Jun. 28, 1988, Optically active tolan derivative; Makoto Sasaki, et al., 560/8; 252/299.01, 299.6, 299.64; 560/64, 72 [IMAGE AVAILABLE]

88. 4,742,064, May 3, 1988, Antiviral carbocyclic analogs of xylofuranosylpurines; Robert Vince, 514/258, 261, 262; 544/276, 277

[IMAGE AVAILABLE]

89. 4,730,046, Mar. 8, 1988, Preparation of aryl halides; Andrea Leone-Bay, et al., 544/334; 546/345; 568/656; 570/141, 201 [IMAGE AVAILABLE]

90. 4,730,043, Mar. 8, 1988, Process for preparing pyrimidine; Roland E. van der Stoel, 544/242 [IMAGE AVAILABLE]

91. 4,728,736, Mar. 1, 1988, Carbocyclic analogs of purine ribofuranosides; Y. Fulmer Shealy, et al., 544/254, 264, 265, 267, 277 [IMAGE AVAILABLE]

92. 4,726,910, Feb. 23, 1988, Tolan-type nematic liquid crystalline compounds; Haruyoshi Takatsu, et al., 252/299.5, 299.6, 299.61, 299.63, 299.64, 299.65, 299.66, 299.67 [IMAGE AVAILABLE]

93. 4,713,468, Dec. 15, 1987, Tolan-type nematic liquid crystalline compounds; Haruyoshi Takatsu, et al., 558/411; 252/299.5, 299.6, 299.63; 570/128, 129, 184, 185; 585/20, 25 [IMAGE AVAILABLE]

94. 4,705,905, Nov. 10, 1987, Tolan-type nematic liquid crystalline compounds; Haruyoshi Takatsu, et al., 585/25; 252/299.5, 299.6, 299.61, 299.63, 299.66; 585/20 [IMAGE AVAILABLE]

95. 4,705,870, Nov. 10, 1987, Tolan-type nematic liquid crystalline compounds; Haruyoshi Takatsu, et al., 549/369; 252/299.5, 299.6, 299.61, 299.63, 299.66 [IMAGE AVAILABLE]

96. 4,677,110, Jun. 30, 1987, N-benzoyl-N'-pyrimidinyloxyphenyl urea compounds, and antitumorous compositions containing them; Takahiro Haga, et al., 514/274; 544/316 [IMAGE AVAILABLE]

97. 4,661,115, Apr. 28, 1987, Hair dyeing agents; Winfred Orth, et al., 8/409, 423 [IMAGE AVAILABLE]

98. 4,622,324, Nov. 11, 1986, 1.4;3.6-Dianhydrohexitol nitrates substituted by purine bases, and pharmaceutical compositions; Klaus Klessing, et al., 514/265, 263; 544/267, 269 [IMAGE AVAILABLE]

99. 4,591,588, May 27, 1986, Triazolo[1,5-c]pyrimidines and bronchodilation use thereof; James J. Wade, 514/228.5; 544/58.2 [IMAGE AVAILABLE]

100. 4,585,575, Apr. 29, 1986, 2-substituted-6-(5-substituted-2-pyrimidinyl)naphthalenes; Shigeru Sugimori, et al., 252/299.61, 299.5, 299.62; 544/242, 294, 335; 548/157 [IMAGE AVAILABLE]

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1. 5,721,356, Feb. 24, 1998, Orally active adenosine kinase inhibitors; Bheemarao G. Ugarkar, et al., 536/27.2, 27.21, 27.22, 27.62, 27.7 [IMAGE AVAILABLE]

2. 5,623,782, Apr. 29, 1997, Maize resistant to aryloxyphenoxyalkanecarboxylic acid herbicides; Gunter Donn, 47/58; 800/200, 230, 235, DIG.58 [IMAGE AVAILABLE]

3. 5,502,271, Mar. 26, 1996, Maize resistant to aryloxyphenoxyalkanecarboxylic acid herbicides; Gunter Donn, 800/200; 47/58; 435/172.1, 413, 424; 800/235, 250, DIG.56 [IMAGE AVAILABLE]

4. 5,210,077, May 11, 1993, Antibodies to cytokinins having a glycosylated isoprenoid side chain and immunoassay methods; David L. Brandon, et al., 530/388.21; 436/543; 514/25, 32; 530/350, 388.24, 388.5, 388.9, 389.1, 389.8, 403; 536/4.1, 17.3 [IMAGE AVAILABLE]

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US PAT NO: 5,721,356 [IMAGE AVAILABLE] L16: 1 of 4

DETDESC:

DETD(20)

Further, the compounds of the present invention contain asymmetric carbon atoms and hence can exist as stereoisomers, both enantiomers and diastereomers. The individual preferred stereoisomers and **mixtures** thereof are considered to fall within the scope of the present invention. The compounds described by Formula 1 may contain a 5-modified 1-.beta.-D-ribofuranosyl group and that isomer comprises a particularly preferred diastereomeric and enantiomeric form for compounds of the present invention. It is also evident that in addition to the sugar moiety, additional asymmetric carbons may be present in compounds of the present invention, being present in moieties A.sub.1, A.sub.2 or B, or in the **substituted** heterocyclic pyrrolo[2,3-d]**pyrimidine** or pyrazolo[3,4-d]pyrimidine ring. In this event, both of the resulting diastereomers are considered to fall within the scope of the present invention.

DETDESC:

DETD(270)

For each compound, two female beagles were fasted overnight and received an intravenous infusion of test compound in a 10 mg/ml solution of PEG-400 via a cephalic vein. One dog received this solution at an infusion rate of 0.1 mL/min for 20 minutes. The other dog received a 0.2 mL/in infusion for 10 minutes. Heparinized blood was obtained from the other cephalic vein at predetermined time points during the infusion (0 [pre-dose], 5, 10, 15, and 20 minutes for the 20 min. infusion and 0, 5 and10 minutes for the 10 min. infusion). After the infusion, heparinized blood was obtained at 5, 10, 15, 30, 45 min., and 1, 1.5, 2, 4, 6, 8, and 24 hours post infusion. The plasma was separated within 10 minutes of blood **collection** and was stored frozen. The plasma concentration of compound was then determined for these IV infusions.

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L1 22020 S SCAFFOLDS (P) PURIN###### OR PYRIMID####
L2 1 S SCAFFOLDS (P) (PURIN###### OR PYRIMID####)
L3 1 S 5,646,285/PN
L4 12362 S L3 AND PURINE OR PYRIMIDINE
L5 1 S L3 AND (PURINE OR PYRIMIDINE)
L6 10412 S (SCAFFOLD#### OR SUBSTITUTED) (P) (PURIN###### OR PYRIMI
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L7 10239 S L6 NOT CDNA
L8 4907 S (SCAFFOLD#### OR SUBSTITUTED) (10A) (PURIN###### OR PYRI
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L9 2927 S (SCAFFOLD#### OR SUBSTITUTED) (4A) (PURIN###### OR PYRIM
ID#
L10 207 S L9 (P) (MIX OR MIXT####)
L11 58959 S 1-5
L12 0 S 3-5 KWIC
L13 178 S L10 NOT (RACEMIC (2W) (MIX OR MIXT#####))
L14 173 S L13 NOT (SYNTHES##### (2W) (MIX OR MIXT#####))
L15 0 S L13 AND LIBRAR####
L16 4 S L13 AND COLLECTION

=> s (scaffold#### or substituted) (4a) (purin###### or pyrimid####) (6a) (mix or mixt####) not((racemic or synthe####) (1w) (mix or mixt####))

3814 SCAFFOLD####
279372 SUBSTITUTED
7001 PURIN######
22020 PYRIMID####
100830 MIX
567744 MIXT####
37 (SCAFFOLD#### OR SUBSTITUTED) (4A) (PURIN###### OR PYRIMID#
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) (6A) (MIX OR MIXT####)
15523 RACEMIC
322572 SYNTHE####
100830 MIX
567744 MIXT####
10173 (RACEMIC OR SYNTHE####) (1W) (MIX OR MIXT####)
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1. 5,688,948, Nov. 18, 1997, Process for isomerizing acyclic nucleosides and process for separating purine nucleosides; Kunisuke Izawa, et al., 544/276, 264, 265, 267, 272, 277 [IMAGE AVAILABLE]

2. 5,614,407, Mar. 25, 1997, Methods for ameliorating the adverse effects of aging; Suresh I. S. Rattan, 435/375, 377; 514/266, 844 [IMAGE AVAILABLE]

3. 5,412,088, May 2, 1995, 6-O-substituted guanosine derivatives; Roger A. Jones, et al., 536/27.81, 24.3, 25.3 [IMAGE AVAILABLE]

4. 5,344,464, Sep. 6, 1994, Oxidation dye composition containing at least one double base in combination with at least one single base and dyeing process making use of it; Annie Madrange, et al., 8/410, 407, 408, 411, 412, 416, 421 [IMAGE AVAILABLE]

5. 5,227,461, Jul. 13, 1993, Extended difunctional end-cap monomers; Hyman R. Lubowitz, et al., 528/322, 170, 172; 544/249, 250 [IMAGE AVAILABLE]

6. 5,225,555, Jul. 6, 1993, Processes for purification of 2,4-di(1-pyrrolidinyl)-6-chloropyrimidine; Bruce A. Pearlman, et al., 544/323, 122, 295, 296 [IMAGE AVAILABLE]

7. 5,214,523, May 25, 1993, Ferroelectric liquid crystal display device having monostabilized state as an initial state and continuous gray-scale; Keiichi Nito, et al., 349/173; 252/299.01; 349/133, 184, 188 [IMAGE AVAILABLE]

8. 5,210,077, May 11, 1993, Antibodies to cytokinins having a glycosylated isoprenoid side chain and immunoassay methods; David L. Brandon, et al., 530/388.21; 436/543; 514/25, 32; 530/350, 388.24, 388.5, 388.9, 389.1, 389.8, 403; 536/4.1, 17.3 [IMAGE AVAILABLE]

9. 5,175,233, Dec. 29, 1992, Multidimensional ester or ether oligomers with pyrimidinyl end caps; Hyman R. Lubowitz, et al., 528/170, 172, 288, 289, 290 [IMAGE AVAILABLE]

10. 5,112,939, May 12, 1992, Oligomers having pyrimidinyl end caps; Hyman R. Lubowitz, et al., 528/289, 170, 172, 288, 290 [IMAGE AVAILABLE]

11. 5,068,271, Nov. 26, 1991, Arylenediamine substituted pyrimidines compositions; Edward L. Wheeler, et al., 524/100, 92, 93, 95; 544/323 [IMAGE AVAILABLE]

12. 4,980,481, Dec. 25, 1990, End-cap monomers and oligomers; Hyman R. Lubowitz, et al., 548/435, 451, 455, 476, 524, 547 [IMAGE AVAILABLE]

13. 4,946,956, Aug. 7, 1990, Arylenediamine substituted pyrimidines; Edward L. Wheeler, et al., 544/323; 524/100; 544/296, 310, 312, 317, 324, 326, 327, 328, 329 [IMAGE AVAILABLE]

14. 4,917,455, Apr. 17, 1990, Field-assisted fiber spinning for the preparation of optical fibers having non-linear optical activity; David S. Soane, 385/143, 122, 142 [IMAGE AVAILABLE]

15. 4,840,741, Jun. 20, 1989, Ashless anti-wear additives; Morton Beltzer, et al., 508/256, 255, 259, 261, 266, 267 [IMAGE AVAILABLE]

16. 4,554,090, Nov. 19, 1985, Combination corrosion/scale inhibitor; Loyd W. Jones, 252/181, 180, 389.22, 394; 507/236, 939; 510/265, 269, 469, 499, 500 [IMAGE AVAILABLE]

17. 4,504,666, Mar. 12, 1985, High yield preparation of aromatic amine oxides; Gary W. Earl, et al., 546/345; 544/224, 235, 242, 253, 264, 336, 347, 349, 358; 546/1, 112, 141, 153, 348; 564/298 [IMAGE AVAILABLE]

18. 4,196,207, Apr. 1, 1980, Process for controlling eradicating or preventing infestations of animals by Ixodid ticks; Lionel G. Webber, 514/258, 267; 544/250, 278 [IMAGE AVAILABLE]

19. 4,170,526, Oct. 9, 1979, Electroplating bath and process; Hans G. Creutz, deceased, et al., 205/310, 312, 313, 314 [IMAGE AVAILABLE]

20. 4,146,716, Mar. 27, 1979, Thienopyrimidines; John M. Cox, et al., 544/278, 117, 250 [IMAGE AVAILABLE]

21. 4,116,875, Sep. 26, 1978, Multifunctional substituted triazine functional fluid additives and compositions containing same; John C. Nnadi, et al., 508/258; 44/336; 252/75, 77 [IMAGE AVAILABLE]

22. 4,113,725, Sep. 12, 1978, Multifunctional additives; John C. Nnadi, et al., 544/296; 508/255; 544/198, 212, 224, 238, 295, 323, 324, 326, 328, 329, 330, 331, 332, 336, 357, 405; 546/278.7 [IMAGE AVAILABLE]

23. 4,038,410, Jul. 26, 1977, Nitroimidazole derivatives and process for the preparation thereof; Clemens Rufer, et al., 514/397, 398; 544/331, 333; 548/249, 312.4, 328.1, 328.5 [IMAGE AVAILABLE]

24. 4,001,230, Jan. 4, 1977, 3-(5-Nitroimidazol-2-yl)pyrazolo[3,4-d]pyrimidine compounds; Henry Friedman, 544/118, 262; 548/312.4, 327.1, 328.1 [IMAGE AVAILABLE]

25. 3,966,937, Jun. 29, 1976, Method for protecting plants from soil-borne plant disease organisms using methyl-(4-methylphenyl)-substituted-tetrazolo (1,5-a)-pyrimidines; Fred Y. Edamura, et al., 514/258; 424/DIG.8 [IMAGE AVAILABLE]

26. 3,950,525, Apr. 13, 1976, Relaxation of smooth muscle in a mammal; Gerald George De Angelis, et al., 514/269 [IMAGE AVAILABLE]

27. 3,920,654, Nov. 18, 1975, Methyl-(4-methylphenyl)-substituted-tetrazolo(1,5-a)pyrimidine; Fred Y. Edamura, et al., 544/254; 548/251 [IMAGE AVAILABLE]

28. 3,908,012, Sep. 23, 1975, Arylpyrimidines-inhibitors of platelet aggregation and bronchodilators; Gerald George De Angelis, et al., 514/256, 212, 227.8, 228.2, 233.5, 235.2, 235.8, 267, 269, 826 [IMAGE AVAILABLE]

29. 3,895,112, Jul. 15, 1975, Arylpyrimidines in the relaxation of smooth muscle; Gerald George DeAngelis, et al., 514/256, 212, 227.8, 228.2, 233.5, 235.2, 235.8, 267, 269, 826 [IMAGE AVAILABLE]

30. 3,890,321, Jun. 17, 1975, 6-Aryl-5-ethyl-pyrimidin-4-ol compounds useful as intermediates and bronchodilators; Gerald George DeAngelis, et al., 544/319; 540/467, 470, 481, 544, 553, 575, 601; 544/250, 295, 309, 326, 327, 328, 329, 333, 334 [IMAGE AVAILABLE]

31. 3,888,773, Jun. 10, 1975, Nitrogen compounds linked to a heterocyclic ring as multifunctional additives in fuel and lubricant compositions; John C. Nnadi, et al., 508/165; 44/335, 336, 338; 508/172, 179, 255 [IMAGE AVAILABLE]

32. 3,887,708, Jun. 3, 1975, Alpha, alpha-disubstituted-5-pyrimidinemethanes used as fungicides; Harold M. Taylor, et al., 514/256; 504/239 [IMAGE AVAILABLE]

33. 3,868,455, Feb. 25, 1975, Certain benzyl purines in combination with certain benzoylacrylanilides as coccidiostats; Brinton M. Miller, et al., 514/261, 522, 618, 619, 621 [IMAGE AVAILABLE]

34. 3,868,244, Feb. 25, 1975, Plant growth regulation; Harold M. Taylor, et al., 504/155, 239 [IMAGE AVAILABLE]

35. 3,859,288, Jan. 7, 1975, ARYLPYRIMIDINES - INHIBITORS OF PLATELET AGGREGATION AND BRONCHODILATORS; Gerald George DeAngelis, et al., 544/326, 328, 329 [IMAGE AVAILABLE]

36. 3,818,009, Jun. 18, 1974, ALPHA, ALPHA-DISUBSTITUTED-5-PYRIMIDINEMETHANES; Harold M. Taylor, et al., 544/242; 504/177, 239; 544/333, 335 [IMAGE AVAILABLE]

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1. 5,688,948, Nov. 18, 1997, Process for isomerizing acyclic nucleosides and process for separating purine nucleosides; Kunisuke Izawa, et al., 544/276, 264, 265, 267, 272, 277 [IMAGE AVAILABLE]

US PAT NO: 5,688,948 [IMAGE AVAILABLE] L17: 1 of 36
DATE FILED: May 30, 1995

ABSTRACT:
Herein is disclosed a novel and industrially advantageous process for synthesizing acyclic nucleosides such as acyclovir and ganciclovir from ribonucleosides, which process comprises adding an acid catalyst and an acid anhydride to a solution of a ribonucleoside such as guanosine and an ester derivative of an acyclic sugar, and heating the mixture, whereby a transglycosilation reaction takes place between the ribose moiety of the ribonucleoside and the ester derivative of the acyclic sugar.
Herein is also disclosed an industrially favorable method for the separation of 9-substituted purine nucleosides which are important intermediates for the synthesis of acyclic nucleosides such as acyclovir, ganciclovir, and the like from ribonucleosides, which method comprises crystallizing only the 9-isomer from a solution or suspension containing both a 9-substituted purine nucleoside and a 7-substituted purine nucleoside by cooling the solution or/and by adding a crystallizing solvent thereto.

SUMMARY:

BSUM(66)

The cooling crystallization is effected by dissolving a **mixture** of a 9-**substituted** **purine** nucleoside and a 7-**substituted** purine nucleoside in a solvent such as water, an alcohol such as methanol, ethanol, or the like, an organic acid. . . or the like, while heating if necessary, and then cooling the resultant solution. Preferably, it is effected by dissolving a **mixture** of a 9-**substituted** **purine** nucleoside and a 7-**substituted** purine nucleoside in water, an alcohol such as methanol, ethanol, or the like, or a mixture solvent of water and. . .

SUMMARY:

BSUM(67)

A **mixture** of a 9-**substituted** **purine** nucleoside and a 7-**substituted** purine nucleoside to be treated according to the cooling crystallization may be one which has been isolated once from the. . .

SUMMARY:

BSUM(69)

The above mentioned solution or suspension containing a 9-substituted **purine** nucleoside and a 7-**substituted** **purine** nucleoside may be a reaction **mixture** per se or a concentrate thereof. In the case of a suspension, it is preferable to add a crystallizing solvent. . .

2. 5,614,407, Mar. 25, 1997, Methods for ameliorating the adverse effects of aging; Suresh I. S. Rattan, 435/375, 377; 514/266, 844 [IMAGE AVAILABLE]

US PAT NO: 5,614,407 [IMAGE AVAILABLE] L17: 2 of 36
DATE FILED: Sep. 28, 1994

ABSTRACT:
Compositions and methods are provided for countering the adverse effects of aging on cells in culture and in vivo in which cells are contacted with the compositions that ameliorate the adverse effects of aging on mammalian cells by slowing or reversing the changes that normally accompanying aging of such cells but do not significantly increase the growth rate or total proliferative capacity of such cells. The compositions contain one or more 6-(substituted amino)purine cytokinins and preferably do not contain ingredients that promote cell division or that induce or potentiate the ability of the 6-(substituted amino) purine cytokinins to promote cell division. Among the preferred applications of the compositions and methods provided herein are the preservation of or restoration of the health of mammalian cells in culture and, by application of the compositions to human skin, the health and youthful appearance of the skin.

CLAIMS:

CLMS(1)

What . . .

the morphological changes that normally accompany aging of the mammalian cells, said method comprising administering an effective amount of a 6-(**substituted** amino)**purine** cytokinin or a **mixture** of 6-(**substituted** amino)**purine** cytokinins to the culture, wherein the amount administered is sufficient to slow or delay the morphological changes that normally accompany. . .

3. 5,412,088, May 2, 1995, 6-O-substituted guanosine derivatives; Roger A. Jones, et al., 536/27.81, 24.3, 25.3 [IMAGE AVAILABLE]

US PAT NO: 5,412,088 [IMAGE AVAILABLE] L17: 3 of 36
DATE FILED: Apr. 3, 1992

ABSTRACT:
The following species of N6-activated guanosine derivatives are disclosed:
2-N-trifluoroacetamido-6-(4-nitrophenoxy)-9-(2-deoxy-beta-D-erythro-pentofuranosyl)purine
2-N-trifluoroacetamido-6-pentafluorophenoxy-9-(2-deoxy-beta-D-erythro-pentofuranosyl)purine
6-dimethylpyridinium-9-(2-deoxy-beta-D-erythropentofuranosyl)purine
These guanosine compounds are useful as precursors in the synthesis of a wide variety of antiviral and anticancer nucleosides such as 2-amino-2-deoxyadenosine or 6-thio-deoxyguanosine. Also disclosed are oligonucleotides containing the above nucleosides which are precursors to modified oligonucleotides which are useful as hybridization probes.

SUMMARY:

BSUM(49)
providing . . . hydrogen, hydroxyl, or a protected hydroxyl group, Base1, Base2, and Base3 may be the same or different and comprise a **substituted** or unsubstituted **purine** or **pyrimidine** base, or **mixtures** thereof, and wherein at least one of said Bases has a structure of the formula (VII): ##STR6## wherein R.sup.1 is. . .

SUMMARY:

BSUM(51)

In . . . OH, or a protected hydroxyl group, Base1, Base2, and Base3 may be the same or different and may be a **substituted** or unsubstituted **purine** or **pyrimidine** base, or **mixtures** thereof, and wherein at least one Base has a structure of the formula (VII): ##STR8## wherein R.sup.1 is a nucleophile. . .

SUMMARY:

BSUM(114)

An . . . hydrogen, hydroxyl, or a protected hydroxyl group, Base1, Base2, and Base3 may be the same or different and comprise a **substituted** or unsubstituted **purine** or **pyrimidine** base, or **mixtures** thereof, and wherein at least one of said Bases has a structure of the formula (VII): ##STR15## wherein R.sup.1 is. . .

SUMMARY:

BSUM(120)
providing . . . hydrogen, hydroxyl, or a protected hydroxyl group, Base1, Base2, and Base3 may be the same or different and comprise a **substituted** or unsubstituted **purine** or **pyrimidine** base, or **mixtures** thereof, and wherein at least one of said Bases has a structure of the formula (VII): ##STR17## wherein R.sup.1 is. . .

4. 5,344,464, Sep. 6, 1994, Oxidation dye composition containing at least one double base in combination with at least one single base and dyeing process making use of it; Annie Madrange, et al., 8/410, 407, 408, 411, 412, 416, 421 [IMAGE AVAILABLE]

US PAT NO: 5,344,464 [IMAGE AVAILABLE] L17: 4 of 36
DATE FILED: Jun. 23, 1992

ABSTRACT:
The invention relates to dye compositions for keratinous fibres, containing:
(a) at least one dye precursor belonging to group (A) of single bases chosen from para-phenylenediamines;
(b) at least one dye precursor of group (B) of double bases chosen from N,N'-diphenylalkylenediamines;
the dye precursors of groups (A) and (B) being chosen so that the intensity of the colour on dyed bleached hair (V.sub.B) and the intensity on dyed permanent-waved bleached hair (V.sub.PB) is such that V.sub.B -V.sub.PB =0.+-.0.5, the values of intensity or "value" being determined according to the Munsell notation, the molar ratio of the single bases of group (A) to the double bases of group (B) being between 3 and 10.

CLAIMS:

CLMS(7)

7. . . . derivatives of p-aminophenol substituted on the benzene nucleus or on the amine functional group, oxidation dye precursors that are amino **substituted** pyridine or **pyrimidine** derivatives, and **mixtures** thereof.

5. 5,227,461, Jul. 13, 1993, Extended difunctional end-cap monomers; Hyman R. Lubowitz, et al., 528/322, 170, 172; 544/249, 250 [IMAGE AVAILABLE]

US PAT NO: 5,227,461 [IMAGE AVAILABLE] L17: 5 of 36
DATE FILED: Sep. 30, 1992

ABSTRACT:
High performance composites can be made from linear or multidimensional oligomer or blends that include unsaturated hydrocarbon crosslinking functionalities linked to a benzenetriyl or pyrimidine radical on the terminal ends of the polymeric backbones of the oligomers. The oligomers are made by condensing benzenetriyl or pyrimidine-based end-cap monomers of the formulas: ##STR1## wherein R.sub.1 =lower alkyl, lower alkoxy, aryl, aryloxy, substituted alkyl, substituted aryl, halogen, or mixtures thereof;
j=0, 1, or 2;
G=--CH.sub.2 --, --O--, --S--, --SO--, --CO--, --CHR--, --CR.sub.2 --, or --SO.sub.2 --;
T=methallyl or allyl;
Me=methyl;
R=hydrogen, lower alkyl, or phenyl;
Ph=phenyl; ##STR2## Q=--NH.sub.2, --COX, --NO.sub.2, or --COOH, with suitable polymeric precursors.

DETDESC:

DETD(82)

An . . . can be reacted with nitroaniline, aminobenzoic acid, or aminobenzoic acid chloride to provide a reactive amine functionality. Again, the reaction **mixture** might simply include the hydroxyl-**substituted** **pyrimidine** end cap, the aminobenzoic acid chloride, the diamine, and the dianhydride, although stepwise reaction is preferred to avoid the side. . .

6. 5,225,555, Jul. 6, 1993, Processes for purification of 2,4-di(1-pyrrolidinyl)-6-chloropyrimidine; Bruce A. Pearlman, et al., 544/323, 122, 295, 296 [IMAGE AVAILABLE]

US PAT NO: 5,225,555 [IMAGE AVAILABLE] L17: 6 of 36
DATE FILED: Aug. 19, 1992

ABSTRACT:
The present invention involves two processes for the purification of a mixture of 2,4-di(1-pyrrolidinyl)-6-chloropyrimidine (III) ##STR1## and 4,6-di(1-pyrrolidinyl)-2-chloropyrimidine (IV) ##STR2## to where <1.0% of 4,6-di(1-pyrrolidinyl)-2-chloropyrimidine (IV) is present. In addition also disclosed is a process which not only purifies 2,4-di(1-pyrrolidinyl)-6-chloropyrimidine (III) but produces the commercially important 2,4-di(1-pyrrolidinyl)-6-(1-piperazinyl)pyrimidine (IX) directly.

SUMMARY:

BSUM(37)

The . . . below. In PROCESS B, the mixture of (III) and (IV) is contacted with a strong purification reagent and produces a **mixture** of (III), (IV), 6-**substituted**-2,4-di(1-pyrrolidinyl)**pyrimidines** (VII) and 2-**substituted**-4,6-di(1-pyrrolidinyl)**pyrimidines** (VIII). From this **mixture** which has an improved ratio of (III)/(IV), (III) is obtained as explained below. Alternatively, the mixture of (III), (IV), (VII). . .

7. 5,214,523, May 25, 1993, Ferroelectric liquid crystal display device having monostabilized state as an initial state and continuous gray-scale; Keiichi Nito, et al., 349/173; 252/299.01; 349/133, 184, 188 [IMAGE AVAILABLE]

US PAT NO: 5,214,523 [IMAGE AVAILABLE] L17: 7 of 36
DATE FILED: Apr. 26, 1991

ABSTRACT:
A liquid crystal display device having fast response characteristics and enabling analog gray-scale display is provided. The liquid crystal display device is formed of a liquid crystal material having the chiral smectic C phase. The projection component on the substrates of the axial direction of a cone delineated by a liquid crystal molecule, and the projection component on the substrates of the axial direction of the liquid crystal molecule itself, are adapted to be coincident with the processing direction for uniaxial orientation of the substrates, this state being monostabilized as the initial state. On application of an electrical field, the liquid crystal molecule is rotated along the cone and the apparent tilt angle as viewed on the substrate surface is continuously changed in accordance with the strength of the applied electrical field. The intensity of the transmitted light is increased continuously with increasing tilt angle to obtain the continuous gray-scale or analog gray-scale.

DETDESC:

DETD(5)

Above all, for stably providing a monostable structure, it is preferred to employ phenyl **pyrimidine** liquid crystals or fluorine-**substituted** derivative of tricyclic esters or **mixture** thereof is the non-chiral liquid crystal. Of these, phenyl pyrimidine liquid crystal is most preferred for avoiding defects.

8. 5,210,077, May 11, 1993, Antibodies to cytokinins having a glycosylated isoprenoid side chain and immunoassay methods; David L. Brandon, et al., 530/388.21; 436/543; 514/25, 32; 530/350, 388.24, 388.5, 388.9, 389.1, 389.8, 403; 536/4.1, 17.3 [IMAGE AVAILABLE]

US PAT NO: 5,210,077 [IMAGE AVAILABLE] L17: 8 of 36
DATE FILED: Apr. 6, 1989

ABSTRACT:
Antibodies (polyclonal and monoclonal) having specificity for cytokinins having a glycosylated isoprenoid side chain are described. The antibodies simultaneously recognize a purine ring, an isoprenoid side chain, and a 4'-O-glycoside. The antibodies were elicited using a novel hapten, 9-(2-carboxyethyl) cytokinin-O-glycoside. Immunoassay methods for the determination of cytokinins having a glycosylated isoprenoid side chain which utilize the antibodies are also described.

DETDESC:

DETD(10)

The . . . methyl acrylate to the 6-substituted purine. The chloro substituent is preferred because high yield is obtained under mild conditions. A **mixture** of 6-**substituted** **purine**, methyl acrylate, and finely ground potassium carbonate (1:5:0.06 molar ratio preferred) is stirred in a moderately polar organic solvent such. . . least 20 hours, with 48 hours preferred. The resulting ester, 6-substituted-9-(2-carbomethoxyethyl)purine, is saponified with dilute base. Acidification of the reaction **mixture** yields 6-**substituted**-9-(2-carboxyethyl)**purine**.

9. 5,175,233, Dec. 29, 1992, Multidimensional ester or ether oligomers with pyrimidinyl end caps; Hyman R. Lubowitz, et al., 528/170, 172, 288, 289, 290 [IMAGE AVAILABLE]

US PAT NO: 5,175,233 [IMAGE AVAILABLE] L17: 9 of 36
DATE FILED: Apr. 14, 1992

ABSTRACT:
High performance composites can be made from linear or multidimensional oligomer or blends that include unsaturated hydrocarbon crosslinking functionalities linked to a pyrimidine radical on the terminal ends of the polymeric backbones of the oligomers. The oligomers are made by condensing pyrimidine-based end-cap monomers of the formula: ##STR1## wherein R.sub.1 =lower alkyl, lower alkoxy, aryl, aryloxy, substituted alkyl, substituted aryl, halogen, or mixtures thereof;
j=0, 1, or 2;
G=--CH.sub.2 --, --O--, --S--, --SO--, --CO--, --CHR--, --CR.sub.2 --, or --SO.sub.2 --;
T=methallyl or allyl;
Me=methyl; and
R=hydrogen, lower alkyl, or phenyl,
with suitable polymeric precursors.

DETDESC:

DETD(81)

An . . . can be reacted with nitroaniline, aminobenzoic acid, or aminobenzoic acid chloride to provide a reactive amine functionality. Again, the reaction **mixture** might simply include the hydroxyl-**substituted** **pyrimidine** end cap, the aminobenzoic acid chloride, the diamine, and the dianhydride, although stepwise reaction is preferred to avoid the side. . .

10. 5,112,939, May 12, 1992, Oligomers having pyrimidinyl end caps; Hyman R. Lubowitz, et al., 528/289, 170, 172, 288, 290 [IMAGE AVAILABLE]

US PAT NO: 5,112,939 [IMAGE AVAILABLE] L17: 10 of 36
DATE FILED: Jul. 10, 1990

ABSTRACT:
High performance composites can be made from linear or multidimensional oligomer or blends that include unsaturated hydrocarbon crosslinking functionalities linked to a pyrimidine radical on the terminal ends of the polymeric backbones of the oligomers. The oligomers are made by condensing pyrimidine-based end-cap monomers of the formula: ##STR1## wherein Z=--OH or halogen;
Y= ##STR2## wherein R.sub.1 =lower alkyl, lower alkoxy, aryl, aryloxy, substituted alkyl, substituted aryl, halogen, or mixtures thereof;
j=0, 1, or 2;
G=--CH.sub.2 --, --O--, --S--, --SO--, --CO--, --CHR--, --CR.sub.2 --, or --SO.sub.2 --;
T=methallyl or allyl;
Me=methyl; and
R=hydrogen, lower alkyl, or phenyl, with suitable polymeric precursors.

SUMMARY:

BSUM(109)

An . . . can be reacted with nitroaniline, aminobenzoic acid, or aminobenzoic acid chloride to provide a reactive amine functionality. Again, the reaction **mixture** might simply include the hydroxyl-**substituted** **pyrimidine** end cap, the aminobenzoic acid chloride, the diamine, and the dianhydride, although stepwise reaction is preferred to avoid the side. . .

11. 5,068,271, Nov. 26, 1991, Arylenediamine substituted pyrimidines compositions; Edward L. Wheeler, et al., 524/100, 92, 93, 95; 544/323 [IMAGE AVAILABLE]

US PAT NO: 5,068,271 [IMAGE AVAILABLE] L17: 11 of 36
DATE FILED: Jul. 30, 1990

ABSTRACT:
Disclosed are novel 2,4,6 substituted pyrimidines where the substituents may be the same or different groups. At least one substituent must be N-alkyl paraphenylenediamino, and the other substituents may be various radicals containing sulfur, oxygen or nitrogen or hydrogen or alkyl groups. The compounds are useful as antioxidants and antiozonants for unsaturated compounds and polymers.

SUMMARY:

BSUM(32)

reacting an N-substituted-p-phenylenediamine with a tri-halopyrimidine in a solvent to form a reaction **mixture** including a 2,4,6-tris(N-**substituted**-p-phenylene-diamino)-**pyrimidine** trihydrohalide; and

12. 4,980,481, Dec. 25, 1990, End-cap monomers and oligomers; Hyman R. Lubowitz, et al., 548/435, 451, 455, 476, 524, 547 [IMAGE AVAILABLE]

US PAT NO: 4,980,481 [IMAGE AVAILABLE] L17: 12 of 36
DATE FILED: Mar. 14, 1988

ABSTRACT:
High performance composites can be made from linear or multidimensional oligomer or blends that include unsaturated hydrocarbon crosslinking functionalities linked to a pyrimidine radical on the terminal ends of the polymeric backbones of the oligomers. The oligomers are made by condensing pyrimidine-based end-cap monomers of the formula: ##STR1## wherein Z=--OH or halogen;
Y= ##STR2## wherein R.sub.1 =lower alkyl, lower alkoxy, aryl, aryloxy, substituted alkyl, substituted aryl, halogen, or mixtures thereof;
j=0, 1, or 2;
G=--CH.sub.2 --, --O--, --S--, --SO--, --CO--, --CHR--, --CR.sub.2 --, or --SO.sub.2 --;
T=methallyl or allyl;
Me=methyl; and
R=hydrogen, lower alkyl, or phenyl,
with suitable polymeric precursors.

SUMMARY:

BSUM(109)

An . . . can be reacted with nitroaniline, aminobenzoic acid, or aminobenzoic acid chloride to provide a reactive amine functionality. Again, the reaction **mixture** might simply include the hydroxyl-**substituted** **pyrimidine** end cap, the aminobenzoic acid chloride, the diamine, and the dianhydride, although stepwise reaction is preferred to avoid the side. . .

13. 4,946,956, Aug. 7, 1990, Arylenediamine substituted pyrimidines; Edward L. Wheeler, et al., 544/323; 524/100; 544/296, 310, 312, 317, 324, 326, 327, 328, 329 [IMAGE AVAILABLE]

US PAT NO: 4,946,956 [IMAGE AVAILABLE] L17: 13 of 36
DATE FILED: Sep. 21, 1988

ABSTRACT:
Disclosed are novel 2,4,6 substituted pyrimidines where the substituents may be the same or different groups. At least one substituent must be N-alkyl parphenylenediamino, and the other substituents may be various radicals containing sulfur, oxygen or nitrogen or hydrogen or alkyl groups. The compounds are useful as antioxidants and antiozonants for unsaturated compounds and polymers.

SUMMARY:

BSUM(26)

reacting an N-substituted-p-phenylenediamine with a tri-halopyrimidine in a solvent to form a reaction **mixture** including a 2,4,6-tris(N-**substituted**-p-phenylene-diamino)-**pyrimidine** trihydrohalide; and

14. 4,917,455, Apr. 17, 1990, Field-assisted fiber spinning for the preparation of optical fibers having non-linear optical activity; David S. Soane, 385/143, 122, 142 [IMAGE AVAILABLE]

US PAT NO: 4,917,455 [IMAGE AVAILABLE] L17: 14 of 36
DATE FILED: Sep. 18, 1987

ABSTRACT:
A method for the preparation of polymer-based optical fibers with nonlinear optical activity using a field-assisted fiber spinning technique has been developed. A homogeneous mixture of high-glass-transition-temperature polymer and a rigid-rodlike noncentrosymmetric molecule with nonlinear optical activity is employed in a specialized fiber-spinning operation. Equivalently, the noncentrosymmetric moieties can be chemically attached to the polymer backbone. A special spinneret is designed in such a manner as to allow a strong electric or magnetic field to be externally applied in the die (extrudate) swell region prior to fiber draw-down. In the die swell region, the imposed electric or magnetic field imparts a preferential orientation to the rod-like molecules (segments), where the molecular dipoles acquire an anistropic spatial orientational accentuated and trapped in fiber draw-down, where the mixture cools and vitrifies. Hence, the final product is nonlinearly-active polymer optical fibers doped with non-centrosymmetric rod-like molecules (segments) whose molecular axis is aligned with the fiber axis. In addition, the alignment is such that the net dipole moment of the system as a whole is non-zero due to the strong electromagnetic field imposed prior to fiber draw-down. This invention is useful in a wide variety of electro-optic and opto-electronic applications.

CLAIMS:

CLMS(9)

9. . . . optical fiber of claim 8 wherein the dipolar organic compound is independently selected from:
nitrobenzene;
substituted nitrobenzene;
aniline;
substituted aniline;
p-substituted naphthalene;
p-substituted anthracenes;
substituted diarylurea;
polarized enones;
4-nitroaniline;
pyridine;
substituted pyridine;
substituted thiazole;
purine:

pyrimidine;
halobenzene;
halotoluene; or from **mixtures** thereof.

CLAIMS:

CLMS(10)

10. . . . optical fiber of claim 5 wherein the dipolar organic compound is independently selected from:
nitrobenzene;
substituted nitrobenzene;
aniline;
substituted aniline;
p-substituted naphthalene;
p-substituted anthracenes;
substituted diarylurea;
polarized enones;
4-nitroaniline;
pyridine;
substituted pyridine;
substituted thiazole;
purine;
pyrimidene;
halobenzene;
halotoluene; or **mixtures** thereof.

15. 4,840,741, Jun. 20, 1989, Ashless anti-wear additives; Morton Beltzer, et al., 508/256, 255, 259, 261, 266, 267 [IMAGE AVAILABLE]

US PAT NO: 4,840,741 [IMAGE AVAILABLE] L17: 15 of 36
DATE FILED: Aug. 17, 1987

ABSTRACT:
An anti-wear additive for a functional fluid, such as a lube oil, is disclosed. The additive comprises selected substituted pyridines, pyrimidines, pyrazines, pyridazines and/or fused ring derivatives thereof.

DETDESC:

DETD(8)

As shown in Tables I to X hereinafter, it has been found that **substituted** pyridines, **pyrimidines**, pyrazines, pyridazines, quinolines, and **mixtures** thereof were effective anti-wear additives. The above-noted classes of compounds preferably include electronegative substituents. As used herein, the term electronegative. . .

16. 4,554,090, Nov. 19, 1985, Combination corrosion/scale inhibitor; Loyd W. Jones, 252/181, 180, 389.22, 394; 507/236, 939; 510/265, 269, 469, 499, 500 [IMAGE AVAILABLE]

US PAT NO: 4,554,090 [IMAGE AVAILABLE] L17: 16 of 36
DATE FILED: Mar. 9, 1984

ABSTRACT:
A combination corrosion and scale inhibitor composition comprising the reaction product of a heterocyclic nitrogen containing compound (e.g., mixtures of alkyl substituted pyridines) and aldehyde (e.g., formaldehyde) and a phosphoric acid constituent (e.g., phosphoric acid or phosphonic acid). Such compositions exhibit, simultaneously, inhibition to oxidation corrosion (rusting of carbon steel); suppression of sulfide corrosion (H.sub.2 S in NaCl brine) and the prevention of mineral scaling (CaCO.sub.3 and CaSO.sub.4 scale precipitation).

SUMMARY:

BSUM(10)

(a) a heterocyclic nitrogen containing compound selected from the group consisting of alkyl substituted pyridine, alkyl substituted **pyrimidine**, alkyl substituted imidazole, alkyl **substituted** imidazoline, quinoline, quinaldine and **mixtures** thereof, wherein the alkyl substitution comprises at least one alkyl group of one to about six carbon atoms;

DETDESC:

DETD(62)

The . . . which there are 1 to about 6 carbon atoms per side chain. More specifically, the alkyl substituted pyridines, alkyl substituted **pyrimidines**, alkyl **substituted** imidazoles, alkyl **substituted** imidazolines and **mixtures** thereof and quinoline, quinaldine and mixtures thereof are useful for purposes of this invention. Preferably, the nitrogen containing heterocyclic compounds. . .

CLAIMS:

CLMS(1)

1. . .

reaction product of:
(a) a heterocyclic nitrogen containing compound selected from the group consisting of alkyl substituted pyridine, alkyl substituted **pyrimidine**, alkyl substituted imidazole, alkyl **substituted** imidazoline, quinoline, quinaldine and **mixtures** thereof, wherein the alkyl substitution comprises at least one alkyl group of one to about six carbon atoms;
(b) an aldehyde. . .

17. 4,504,666. Mar. 12, 1985, High yield preparation of aromatic amine oxides; Gary W. Earl, et al., 546/345; 544/224, 235, 242, 253, 264, 336, 347, 349, 358; 546/1, 112, 141, 153, 348; 564/298 [IMAGE AVAILABLE]

US PAT NO: 4,504,666 [IMAGE AVAILABLE] L17: 17 of 36
DATE FILED: Jun. 4, 1982

ABSTRACT:
Disclosed is an improvement in process for oxidizing an aromatic amine to form an aromatic amine oxide wherein a reaction mixture of the aromatic amine and a peracid is formed and maintained under non-aqueous conditions at a temperature and for a time adequate until substantially all of the aromatic amine is formed into said aromatic amine oxide. The provision for eliminating water from the reaction mixture leads to near quantitative yields of aromatic amine oxide.

CLAIMS:

CLMS(9)

9. . . . amine is selected from the group consisting of pyrazine, pyrimidine, pyradazine, triazine, indolizine, isoquinoline, quinoline, pyridine, picoline, quinaldine, benzodiazine, phenazine, **purine**, **substituted** derivatives thereof, and **mixtures** thereof.

CLAIMS:

CLMS(16)

16. . . . said aromatic amine is selected from the group consisting of pyrazine, pyrimidine, pyridazine, indolizine, isoquinoline, quinoline, pyridine, picoline, quinaldine, triazine, **purine**, benzodiazine, phenazine, **substituted** derivatives thereof, and **mixtures** thereof.

18. 4,196,207, Apr. 1, 1980, Process for controlling eradicating or preventing infestations of animals by Ixodid ticks; Lionel G. Webber, 514/258, 267; 544/250, 278 [IMAGE AVAILABLE]

US PAT NO: 4,196,207 [IMAGE AVAILABLE] L17: 18 of 36
DATE FILED: May 9, 1978

ABSTRACT:
A process for the prevention of infestation by Ixodid ticks, or for the control or eradication of infestations of Ixodid ticks, which process comprises applying to the media to be protected or to the infested media an effective amount of a composition comprising as active ingredient a thienopyrimidine derivative of general formula I: ##STR1## xwherein
R.sup.1 is chosen from alkyl optionally substituted with hydroxy, methoxy, cycloalkyl, aryl, heteroaryl, and heterocycloalkyl groups; alkenyl; alkynyl; cycloalkyl;
R.sup.3 is chosen from hydrogen, alkyl and acyl; or R.sup.1 and R.sup.3 together form a saturated or unsaturated alkylene or heteroalkylene bridging group;
R.sup.2 is chosen from hydrogen, hydroxy, mercapto, halo, cyano, optionally substituted-amino, optionally substituted hydrazino, alkyl, alkenyl, alkynyl, alkoxy, alkylthio, cycloalkyl, aralkyl, aryl and trifluoromethyl;
R.sup.5 and R.sup.6 are independently chosen from hydrogen, optionally substituted alkyl, halogen and aryl;
or R.sup.5 and R.sup.6 together form a saturated alkyl bridging group;
or an optical isomer thereof; or a tautomer thereof; or a salt thereof; and a carrier therefor.

DETDESC:

DETD(18)

A **mixture** of an appropriately **substituted** 4-chlorothieno[2,3-d]**pyrimidine** and either a primary or secondary amine*, neat or together with a solvent (e.g. a lower alcohol, particularly ethanol), was. . .

19. 4,170,526, Oct. 9, 1979, Electroplating bath and process; Hans G. Creutz, deceased, et al., 205/310, 312, 313, 314 [IMAGE AVAILABLE]

US PAT NO: 4,170,526 [IMAGE AVAILABLE] L17: 19 of 36
DATE FILED: Jan. 16, 1978

ABSTRACT:
A non-cyanide acid or substantially neutral zinc electroplating bath and zinc plating process employing said bath which contains an effective amount of a brightening and leveling agent, and which comprises a bath soluble quaternary compound formed by the reaction of heterocyclics with an alkylating agent selected from the group consisting of dialkyl sulfates, alkyl alkane sulfonates and alkyl arene sulfonates. The versatility and effectiveness of the brightening and leveling agent of this invention enables improved processing of a wide variety of articles, thereby requiring only minimal amounts of the additive agent to produce brilliant and smooth zinc deposits.

SUMMARY:

BSUM(9)

the . . . as set forth in the foregoing structural formula may comprise pyridine, isoquinoline, quinoline, pyrimidine, phenazine, imidazole, imidazoline, pyrrole, pyrazole, pyrazine, **purine**, acridine, and soluble **substituted** derivatives of the named compounds and **mixtures** thereof.

SUMMARY:

BSUM(20)

the . . . comprise a heterocyclic compound selected from the group

consisting of pyridine, isoquinoline, quinoline, pyrimidine, phenazine, imidazole, imidazoline, pyrrole, pyrazole, pyrazine, **purine**, acridine, and soluble **substituted** derivatives of the named compounds and **mixtures** thereof.

CLAIMS:

CLMS(2)

2. . . . the nitrogen heterocyclic is selected from the group consisting of pyridine, isoquinoline, quinoline, pyrimidine, phenazine, imidazole, imidazoline, pyrrole, pyrazole, pyrazine, **purine**, acridine, and soluble **substituted** derivatives of the named compounds and **mixtures** thereof.

20. 4,146,716, Mar. 27, 1979, Thienopyrimidines; John M. Cox, et al., 544/278, 117, 250 [IMAGE AVAILABLE]

US PAT NO: 4,146,716 [IMAGE AVAILABLE] L17: 20 of 36
DATE FILED: Nov. 24, 1976

ABSTRACT:
Thienopyrimidines of the formula: ##STR1## wherein R.sup.1 is straight or branched chain alkyl containing from 3 to 11 carbon atoms and optionally substituted with cyano or methoxy, cycloalkyl, benzyl optionally substituted on the .alpha. carbon atom with a lower alkyl group or in the ring with one or more alkoxy groups or halogen atoms, dimethylamino, phenylethyl optionally substituted at the .alpha.- or .beta.-carbon atoms with a lower alkyl group, tetrahydrofurfuryl; R.sup.3 is hydrogen or NH.sub.2 ; or R.sup.1 and R.sup.3 together form a carbon chain bridging group optionally saturated and containing one or more nitrogen atoms; R.sup.2 is hydrogen, methyl, ethyl, or chlorine; R.sup.5 is hydrogen or methyl; and R.sup.6 is hydrogen, methyl or acetylamino; or an optical isomer thereof; or a tautomer thereof; or a salt thereof. These and other thienopyrimidines are disclosed as useful for plant growth regulation and for combating fungal, viral and bacterial diseases of plants and insect pests.

DETDESC:

DETD(18)

A **mixture** of an appropriately **substituted** 4-chlorothieno[2,3-d]**pyrimidine** and either a primary or secondary amine*, neat or together with a solvent (e.g. a lower alcohol, particularly ethanol), was. . .

21. 4,116,875, Sep. 26, 1978, Multifunctional substituted triazine functional fluid additives and compositions containing same; John C. Nnadi, et al., 508/258; 44/336; 252/75, 77 [IMAGE AVAILABLE]

US PAT NO: 4,116,875 [IMAGE AVAILABLE] L17: 21 of 36
DATE FILED: Jun. 9, 1977

ABSTRACT:
As a new class of multifunctional additives for industrial fluids, the compounds having the following general formula: ##STR1## IN WHICH EACH X and Y represents a heterocyclic nitrogen radical and may be the same or different for each occurrence of X and Y; Z is a basic nitrogen-containing radical; n is 0 or an integer of at least 1, preferably 1 to 10; and A, B, C, and D are linked groups derived from compounds which may provide desired functions, such as detergent, antioxidant, and antiwear properties, or indirectly useful functions, such as adsorbency. At least one of A, B, C, or D is amino or anilino or is derived from an alkenylsuccinimide or an alkyl lactam or tetrahydropyrrolidine, or alkyl-substituted Mannich base, having at least 8 carbon atoms in the alkenyl or alkyl radical, or combinations of any of these. The reaction between these products and metal compounds particularly alkali and alkaline earth metal compounds provides more improved properties.

SUMMARY:

BSUM(16)

In . . . polyamines (m=2) ethylenediamine (e=1), diethylenetriamine (e=2), triethylenetetramine (e=3), tetraethylenepentamine (e=4), and the like. With a mole ratio of 2:1 of **substituted** **pyrimidine** to amine or polyamine, the reaction **mixture** is believed to contain the bis-(**substituted** **pyrimidine**) of the aforesaid (b)-type formula in which n is 0. If the substituted monohalo heterocyclic is reacted with a preformed. . .

22. 4,113,725, Sep. 12, 1978, Multifunctional additives; John C. Nnadi, et al., 544/296; 508/255; 544/198, 212, 224, 238, 295, 323, 324, 326, 328, 329, 330, 331, 332, 336, 357, 405; 546/278.7 [IMAGE AVAILABLE]

US PAT NO: 4,113,725 [IMAGE AVAILABLE] L17: 22 of 36
DATE FILED: Apr. 3, 1975

ABSTRACT:
As a new class of multifunctional additives for industrial fluids, the compounds having the following general formula: ##STR1## IN WHICH EACH X and Y represents a heterocyclic nitrogen radical and may be the same or different for each occurrence of X and Y; Z is a basic nitrogen-containing radical; n is 0 or an integer of at least 1, preferably 1 to 10; and A, B, C, and D are linked groups derived from compounds which may provide desired functions, such as detergent, antioxidant, and antiwear properties, or indirectly useful functions, such as adsorbency. At least one of A, B, C, or D is amino or anilino or is derived from an alkenylsuccinimide or an alkyl lactam or tetrahydropyrrolidine, or alkyl-substituted Mannich base, having at least 8 carbon atoms in the alkenyl or alkyl radical, or combinations of any of these. The reaction between these products and metal compounds particularly alkali and alkaline earth metal compounds provides more improved properties.

SUMMARY:

BSUM(16)

In . . . polyamines (m=2) ethylenediamine (e=1), diethylenetriamine (e=2), triethylenetetramine (e=3), tetraethylenepentamine (e=4), and the like. With a mole ratio of 2:1 of **substituted** **pyrimidine** to amine or polyamine, the reaction **mixture** is believed to contain the bis-(**substituted** **pyrimidine**) of the aforesaid (b)-type formula in which n is 0. If the substituted monohalo heterocyclic is reacted with a preformed. . .

23. 4,038,410, Jul. 26, 1977, Nitroimidazole derivatives and process for the preparation thereof; Clemens Rufer, et al., 514/397, 398; 544/331, 333; 548/249, 312.4, 328.1, 328.5 [IMAGE AVAILABLE]

US PAT NO: 4,038,410 [IMAGE AVAILABLE] L17: 23 of 36
DATE FILED: Mar. 12, 1975

ABSTRACT:
Nitroimidazoles of the formula ##STR1## wherein R is dialkylaminoacryloyl; 3-, 4-, or 5-pyrazolyl or a mixture thereof which is unsubstituted or substituted by alkyl or, at the 1-position, by hydroxyalkyl or a nitro ester thereof, acyloxyalkyl, nitro, phenyl or phenyl p-substituted by halo, alkoxy or nitro, or, in the 3- or 5-position or a mixture thereof by nitro; 3- or 5-alkyl-4-isooxazolyl or a **mixture** thereof; or 4-alkyl-5-**pyrimidinyl**, unsubstituted or **substituted** by alkyl, amino, 2-furyl or 5-nitro-2-furyl, and the physiologically acceptable acid addition salts thereof, possess anti-protozoal activity, e.g., against trichomonas vaginalis and Entamoeba histolytica.

ABSTRACT:
Nitroimidazoles . . . alkoxy or nitro, or, in the 3- or 5-position or a mixture thereof by nitro; 3- or 5-alkyl-4-isooxazolyl or a **mixture** thereof; or 4-alkyl-5-**pyrimidinyl**, unsubstituted or **substituted** by alkyl, amino, 2-furyl or 5-nitro-2-furyl, and the physiologically acceptable acid addition salts thereof, possess anti-protozoal activity, e.g., against trichomonas. . .

24. 4,001,230, Jan. 4, 1977, 3-(5-Nitroimidazol-2-yl)pyrazolo[3,4-d]pyrimidine compounds; Henry Friedman, 544/118, 262; 548/312.4, 327.1, 328.1 [IMAGE AVAILABLE]

US PAT NO: 4,001,230 [IMAGE AVAILABLE] L17: 24 of 36
DATE FILED: Jan. 31, 1975

ABSTRACT:
There are disclosed novel 3-(5-nitroimidazol-2-yl)-pyrazolo[3,4-d]pyrimidine compounds exhibiting utility as antibacterial and antiprotozoal agents.

SUMMARY:

BSUM(84)

The . . . the art. The preparation of the hydrogen chloride salt, for example, is generally carried out by suspending or dissolving the **substituted** pyrazolo **pyrimidine** in dry ethyl ether, cooling the **mixture** to about 0.degree. C. in an ice and water bath, and bubbling hydrogen chloride into the mixture for about 15. . .

25. 3,966,937, Jun. 29, 1976, Method for protecting plants from soil-borne plant disease organisms using methyl-(4-methylphenyl)-substituted-tetrazolo (1,5-a)-pyrimidines; Fred Y. Edamura, et al., 514/258; 424/DIG.8 [IMAGE AVAILABLE]

US PAT NO: 3,966,937 [IMAGE AVAILABLE] L17: 25 of 36
DATE FILED: Jan. 20, 1975

ABSTRACT:
Methyl-(4-methylphenyl)-substituted-tetrazolo-(1,5-a)pyrimidine and methods employing the same for the systemic protection of plants from soil-borne plant disease organisms.

CLAIMS:

CLMS(1)

We . . .
presence of a carrier medium under reflux conditions for from about 2 to about 6 hours to form a reaction **mixture** containing a methyl-(4-methylphenyl)-**substituted** 4,5-dihydrotetrazole(1,5-a)**pyrimidin**-5-ol intermediate, (3) recovering said intermediate formed in step (2), (4) dissolving the intermediate recovered in step (3) in a suitable. . .

CLAIMS:

CLMS(2)

2. . . .
presence of a carrier medium under reflux conditions for from about 2 to about 6 hours to form a reaction **mixture** containing a methyl-(4-methylphenyl)-**substituted** 4,5-dihydrotetrazolo(1,5-a)**pyrimidin**-5-ol intermediate, (3) recovering said intermediate formed in step (2), (4) dissolving the intermediate recovered in step (3) in a suitable. . .

26. 3,950,525, Apr. 13, 1976, Relaxation of smooth muscle in a mammal; Gerald George De Angelis, et al., 514/269 [IMAGE AVAILABLE]

US PAT NO: 3,950,525 [IMAGE AVAILABLE] L17: 26 of 36
DATE FILED: Apr. 11, 1975

ABSTRACT:
4-Amino-6-arylpyrimidines and salts thereof, a novel class of inhibitors of platelet aggregation and broncho-dilators in mammals, and 4-hydroxy-6-arylpyrimidines as useful intermediates.

SUMMARY:

BSUM(38)

Displacement . . . reaction-inert solvent with ammonia or an amine, HNR.sub.1 R.sub.2 wherein R.sub.1 and R.sub.2 are as previously described. In practice, a **mixture** of the appropriately **substituted** 4-chlorobenzothieno[3,2-d]**pyrimidine** and ammonia or a suitable amine are heated in a solvent such as ethanol, dimethylformamide, benzene or tetrahydrofuran. It is. . .

27. 3,920,654, Nov. 18, 1975, Methyl-(4-methylphenyl)-substituted-tetrazolo(1,5-a)pyrimidine; Fred Y. Edamura, et al., 544/254; 548/251 [IMAGE AVAILABLE]

US PAT NO: 3,920,654 [IMAGE AVAILABLE] L17: 27 of 36
DATE FILED: Mar. 14, 1974

ABSTRACT:
Methyl-(4-methylphenyl)-substituted-tetrazolo-(1,5-a)pyrimidine and methods employing the same for the systemic protection of plants from soil-borne plant disease organisms.

CLAIMS:

CLMS(1)

We . . .
2 molar proportions of 5-aminotetrazole monohydrate in the presence of a carrier medium under reflux conditions to form a reaction **mixture** containing a metyyl-(4-methylphenyl)-**substituted** 4,5-dihydrotetrazolo(1,5-a)**pyrimidin**-5-ol intermediate, (3) recovering said intermediate formed in step (2), (4) dissolving the intermediate recovered in step (3) in a suitable. . .

28. 3,908,012, Sep. 23, 1975, Arylpyrimidines-inhibitors of platelet aggregation and bronchodilators; Gerald George De Angelis, et al., 514/256, 212, 227.8, 228.2, 233.5, 235.2, 235.8, 267, 269, 826 [IMAGE AVAILABLE]

US PAT NO: 3,908,012 [IMAGE AVAILABLE] L17: 28 of 36
DATE FILED: Jun. 19, 1973

ABSTRACT:
4-Amino-6-arylpyrimidines and salts thereof, a novel class of inhibitors of platelet aggregation and bronchodilators in mammals, and 4-hydroxy-6-arylpyrimidines as useful intermediates.

SUMMARY:

BSUM(37)

Displacement . . . reaction-inert solvent with ammonia or an amine, HNR.sub.1 R.sub.2 wherein R.sub.1 and R.sub.2 are as previously described. In practice, a **mixture** of the appropriately **substituted** 4-chlorobenzothieno[3,2-d]**pyrimidien** and ammonia or a suitable amine are heated in a solvent such as ethanol, dimethylformamide, benzene or tetrahydrofuran. It is. . .

29. 3,895,112, Jul. 15, 1975, Arylpyrimidines in the relaxation of smooth muscle; Gerald George DeAngelis, et al., 514/256, 212, 227.8, 228.2, 233.5, 235.2, 235.8, 267, 269, 826 [IMAGE AVAILABLE]

US PAT NO: 3,895,112 [IMAGE AVAILABLE] L17: 29 of 36
DATE FILED: Jun. 19, 1973

ABSTRACT:
4-Amino-6-arylpyrimidines and salts thereof, a novel class of inhibitors of platelet aggregation and bronchodilators in mammals, and 4-hydroxy-6-arylpyrimidines as useful intermediates.

SUMMARY:

BSUM(38)

Displacement . . . reaction-inert solvent with ammonia or an amine, HNR.sub.1 R.sub.2 wherein R.sub.1 and R.sub.2 are as previously described. In practice, a **mixture** of the appropriately **substituted** 4-chlorobenzothieno[3,2-d]**pyrimidine** and ammonia or a suitable amine are heated in a solvent such as ethanol, dimethylformamide, benzene or tetrahydrofuran. It is. . .

30. 3,890,321, Jun. 17, 1975, 6-Aryl-5-ethyl-pyrimidin-4-ol compounds useful as intermediates and bronchodilators; Gerald George DeAngelis, et al., 544/319; 540/467, 470, 481, 544, 553, 575, 601; 544/250, 295, 309, 326, 327, 328, 329, 333, 334 [IMAGE AVAILABLE]

US PAT NO: 3,890,321 [IMAGE AVAILABLE] L17: 30 of 36
DATE FILED: Jun. 19, 1973

ABSTRACT:
4-Hydroxy-5-ethyl-6-arylpyrimidines are useful intermediates leading to the synthesis of 4-amino-5-ethyl-6-arylpyrimidines, inhibitors of platelet aggregation and bronchodilators. 4-Hydroxy-5-ethyl-6-phenylpyrimidine is also useful as a bronchodilator.

SUMMARY:

BSUM(39)

Displacement . . . reaction-inert solvent with ammonia or an amine, HNR.sub.1 R.sub.2 wherein R.sub.1 and R.sub.2 are as previously described. In practice, a **mixture** of the appropriately **substituted** 4-chlorobenzothieno[3,2-d]**pyrimidine** and ammonia or a suitable amine are heated in a solvent such as ethanol, dimethylformamide, benzene or tetrahydrofuran. It is. . .

31. 3,888,773, Jun. 10, 1975, Nitrogen compounds linked to a heterocyclic ring as multifunctional additives in fuel and lubricant compositions; John C. Nnadi, et al., 508/165; 44/335, 336, 338; 508/172, 179, 255 [IMAGE AVAILABLE]

US PAT NO: 3,888,773 [IMAGE AVAILABLE] L17: 31 of 36
DATE FILED: Apr. 27, 1972

ABSTRACT:
As a new class of multifunctional additives for industrial fluids, the compounds having the following general formula ##SPC1## In which each X and Y represents a heterocyclic nitrogen radical and may be the same or difficult for each occurrence of X and Y; Z is a basic nitrogen-containing radical; n is O or an integer of at least 1, preferably 1 to 10; and A, B, C, and D are linked groups derived from compounds which may provide desired functions, such as detergent, antioxidant, and antiwear properties, or indirectly useful functions, such as adsorbency. At least one of A, B, C, or D is amino or anilino or is derived from an alkenylsuccinimide or an alkyl lactam or tetrahydropyrrolidine, or alkyl-substituted Mannich base, having at least 8 carbon atoms in the alkenyl or alkyl radical, or combinations of any of these. When X is triazine in the (a)-type molecule, at least one of A, B, or C is amino or anilino. One method of preparing these novel additives is to react a halogenated heterocyclic nitrogen compound with an alkenylsuccinimide or a Mannich base or an alkyllactam or pyrrolidine of a polyamine.

SUMMARY:

BSUM(28)

In . . . polyamines (m=2) ethylenediamine (e=1), diethylenetriamine (e=2), triethylenetetramine (e=3), tetraethylenepentamine (e=4), and the like. With a mole ratio of 2:1 of **substituted** **pyrimidine** to amine or polyamine, the reaction **mixture** is believed to contain the bis-(**substituted** **pyrimidine**) of the aforesaid (b)-type formula in which n is 0. If the substituted monohalo heterocyclic is reacted with a preformed. . .

32. 3,887,708, Jun. 3, 1975, Alpha, alpha-disubstituted-5-pyrimidinemethanes used as fungicides; Harold M. Taylor, et al., 514/256; 504/239 [IMAGE AVAILABLE]

US PAT NO: 3,887,708 [IMAGE AVAILABLE] L17: 32 of 36
DATE FILED: Dec. 20, 1972

ABSTRACT:
There are disclosed methods of controlling plant pathogenic fungi by applying fungicidally-effective amounts of .alpha.,.alpha.-disubstituted-5-pyrimidinemethanes and methanols, or the nonphytotoxic acid addition salts thereof, to the locus of the fungi.

SUMMARY:

BSUM(129)

Where X is amino, the compounds are prepared by heating a **mixture** of the analogous halo-**substituted** **pyrimidine**, such as 5-(.alpha. -chlorodiphenylmethyl)pyrimidine, and excess liquid ammonia at an elevated temperature of about 100.degree.C. in a sealed stainless steel. . .

33. 3,868,455, Feb. 25, 1975, Certain benzyl purines in combination with certain benzoylacrylanilides as coccidiostats; Brinton M. Miller, et al., 514/261, 522, 618, 619, 621 [IMAGE AVAILABLE]

US PAT NO: 3,868,455 [IMAGE AVAILABLE] L17: 33 of 36
DATE FILED: Nov. 15, 1973

ABSTRACT:
The use of the 6-amino-(substituted benzyl) purines or their N'-oxides in combination with various benzoylacrylanilides reduces mortality and decreases lesion incidence of poultry exposed to coccidiosis inducing parasites. Poultry feed compositions comprising these 6-amino-(substituted benzyl)-purines or their N'-oxides in combination with benzoylacrylanilides are provided.

SUMMARY:

BSUM(43)

Thus, in accordance with this invention, it has now been found that **mixtures** of one or more 6-amino-(**substituted** benzyl)-**purines** or their N'-oxides together in combination with one or more of a benzoylacylanilide type coccidiostat, when administered to poultry in. .

34. 3,868,244, Feb. 25, 1975, Plant growth regulation; Harold M. Taylor, et al., 504/155, 239 [IMAGE AVAILABLE]

US PAT NO: 3,868,244 [IMAGE AVAILABLE] L17: 34 of 36
DATE FILED: Jan. 30, 1974

ABSTRACT:
There is disclosed a class of .alpha.,.alpha.-disubstituted-5-pyrimidinemethanes and substituted methanes which are useful as plant growth regulators. Internodal elongation of plants is inhibited by treatment with a compound of this invention.

SUMMARY:

BSUM(49)

Where X is amino, the compounds are prepared by heating a **mixture** of the analogous halo-**substituted** **pyrimidine**, such as 5-(.alpha.-chlorodiphenylmethyl)pyrimidine, and excess liquid ammonia at an elevated temperature of about 100.degree.C. in a sealed stainless steel reaction. . .

35. 3,859,288, Jan. 7, 1975, ARYLPYRIMIDINES - INHIBITORS OF PLATELET
AGGREGATION AND BRONCHODILATORS; Gerald George DeAngelis, et al., 544/326, 328, 329 [IMAGE AVAILABLE]

US PAT NO: 3,859,288 [IMAGE AVAILABLE] L17: 35 of 36
DATE FILED: Sep. 20, 1971

ABSTRACT:
4-Amino-6-arylpyrimidines and salts thereof, a class of inhibitors of platelet aggregation and broncho-dilators in mammals, and 4-hydroxy-6-arylpyrimidines as useful intermediates.

SUMMARY:

BSUM(39)

Displacement . . . reaction-inert solvent with ammonia or an amine, HNR.sub.1 R.sub.2 wherein R.sub.1 and R.sub.2 are as previously described. In practice, a **mixture** of the appropriately **substituted** 4-chlorobenzothieno[3,2-d]**pyrimidine** and ammonia or a suitable amine are heated in a solvent such as ethanol, dimethylformamide, benzene or tetrahydrofuran. It is. . .

36. 3,818,009, Jun. 18, 1974, ALPHA, ALPHA-DISUBSTITUTED-5-PYRIMIDINEMETHANES; Harold M. Taylor, et al., 544/242; 504/177, 239; 544/333, 335 [IMAGE AVAILABLE]

US PAT NO: 3,818,009 [IMAGE AVAILABLE] L17: 36 of 36
DATE FILED: Mar. 13, 1972

ABSTRACT:
There is disclosed a class of .alpha.,.alpha.-disubstituted-5-pyrimidinemethanes and substituted methanes which are useful as fungicides, bactericides, herbicides, and plant growth regulators. Internodal elongation of plants is inhibited by treatment with a compound of this invention.

SUMMARY:

BSUM(96)

Where X is amino, the compounds are prepared by heating a **mixture** of the analogous halo-**substituted** **pyrimidine**, such as 5-(.alpha.-chlorodiphenylmethyl)pyrimidine, and excess liquid ammonia at an elevated temperature of about 100.degree.C. in a sealed stainless steel reaction. . .

=> d his

(FILE 'USPAT' ENTERED AT 06:31:02 ON 23 APR 1998)
L1 22020 S SCAFFOLDS (P) PURIN###### OR PYRIMID####
L2 1 S SCAFFOLDS (P) (PURIN###### OR PYRIMID####)
L3 1 S 5,646,285/PN
L4 12362 S L3 AND PURINE OR PYRIMIDINE
L5 1 S L3 AND (PURINE OR PYRIMIDINE)
L6 10412 S (SCAFFOLD#### OR SUBSTITUTED) (P) (PURIN###### OR PYRIMI
D##
L7 10239 S L6 NOT CDNA
L8 4907 S (SCAFFOLD#### OR SUBSTITUTED) (10A) (PURIN######
OR PYRI
MID
L9 2927 S (SCAFFOLD#### OR SUBSTITUTED) (4A) (PURIN###### OR
PYRIM
ID#
L10 207 S L9 (P) (MIX OR MIXT####)
L11 58959 S 1-5
L12 0 S 3-5 KWIC
L13 178 S L10 NOT (RACEMIC (2W) (MIX OR MIXT#####))
L14 173 S L13 NOT (SYNTHES##### (2W) (MIX OR MIXT#####))
L15 0 S L13 AND LIBRAR####
L16 4 S L13 AND COLLECTION
L17 36 S (SCAFFOLD#### OR SUBSTITUTED) (4A) (PURIN###### OR
PYRIM
ID#

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199
8
Connection closed by remote host

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Trying 9158046...Open

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□x050fjxh
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Welcome to DIALOG

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     $0.03  Estimated cost File1
     $0.03  Estimated cost this search
     $0.03  Estimated total session cost   0.001 Hrs.

File 410:Chronolog(R)  1981-1998/Mar
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HILIGHT set on as ''
HILIGHT set on as ''
? begin 411

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     $0.00  Estimated cost File410
     $0.01  FTSNET
     $0.01  Estimated cost this search
     $0.04  Estimated total session cost   0.004 Hrs
File 411:DIALINDEX(R)

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? set files allchem allmed

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? s scaffold? ? (4n) (purine? ? or pyrimidine? ?)


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          Items   File
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              1    71: ELSEVIER BIOBASE_1994-1998/Apr W3
              2    73: EMBASE_1974-1998/Apr W3
              1    76: Life Sciences Collection_1982-1998/Feb
              1    99: Wilson Appl. Sci & Tech Abs_1983-1998/Mar
              1   103: Energy SciTec_1974-1998/Mar B2
              1   144: Pascal_1973-1998/Mar
              2   155: MEDLINE(R)_1966-1998/Jun W3
              1   156: Toxline(R)_1965-1998/Feb
      Examined  50 files
              1   159: Cancerlit_1975-1998/Apr
              1   315: ChemEng & Biotec Abs_1970-1998/Apr
              1   358: Current BioTech Abs_1983-1998/Apr
      Examined 100 files
              1   377: Derwent Drug File_1983-1998/Apr W2
              2   434: Scisearch(R) Cited Ref Sci_1974-1998/Apr W2
              1   654: US PAT.FULL._1990-1998/Apr 21
              1    10: AGRICOLA_70-1998/Mar
              1    50: CAB Abstracts_1972-1998/Mar
              3    55: BIOSIS PREVIEWS(R)_1985-1998/Apr W4
              2    72: EMBASE_1985-1998/Apr W3
              1    98: General Sci Abs/Full-Text_1984-1998/Mar
              1   151: HealthSTAR_1975-1998/May
      Examined 150 files
              1   203: AGRIS_1974-1998/Dec
              1   285: BioBusiness(R)_1985-1998/Apr W1
              2   440: Current Contents Search(R)_1990-1998/Apr W3
              1   912: Derwent Drug File_1983-1998/Apr W2

   25 files have one or more items; file list includes 174 files.

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SearchSave "SDBASE2" stored
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     $3.00  Estimated cost File411
     $0.30  FTSNET
     $3.30  Estimated cost this search
     $3.34  Estimated total session cost   0.104 Hrs.

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           1998 reload coming soon.  Accession numbers will change.
  File 315:ChemEng & Biotec Abs  1970-1998/Apr
         (c)1998 RoySocChm,DECHEMA,FizChemie
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Reexamination, extension, expiration, reinstatement updated weekly.
  File  10:AGRICOLA  70-1998/Mar
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  File 440:Current Contents Search(R)  1990-1998/Apr W3
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      Set  Items  Description
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Executing SDBASE2
HILIGHT set on as '?'
          13736  SCAFFOLD? ?
         205558  PURINE? ?
         199861  PYRIMIDINE? ?
      S1     34  SCAFFOLD? ? (4N) (PURINE? ? OR PYRIMIDINE? ?)
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13379041 BIOSIS Number: 99379041
Chromosomes with two intact axial cores are induced by G-2 checkpoint override: Evidence that DNA decatenation is not required to template the chromosome structure
Andreassen P R; Lacroix F B; Margolis R L
Inst. Biol. Structurale Jean-Pierre Ebel, 41 Avenue des Martyrs, 38027 Grenoble cedex 1, France
Journal of Cell Biology 136 (1). 1997. 29-43.
Full Journal Title: Journal of Cell Biology
ISSN: 0021-9525
Language: ENGLISH
Print Number: Biological Abstracts Vol. 103 Iss. 005 Ref. 066919
Here we report that DNA decatenation is not a physical requirement for the formation of mammalian chromosomes containing a two-armed chromosome %scaffold%. 2-%aminopurine% override of G-2 arrest imposed by VM-26 or ICRF-193, which inhibit topoisomerase II (topo II)-dependent DNA

-more-

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2/3,AB,KWIC/1 (Item 1 from file: 5)
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13379041 BIOSIS Number: 99379041
Chromosomes with two intact axial cores are induced by G-2 checkpoint override: Evidence that DNA decatenation is not required to template the chromosome structure
Andreassen P R; Lacroix F B; Margolis R L
Inst. Biol. Structurale Jean-Pierre Ebel, 41 Avenue des Martyrs, 38027 Grenoble cedex 1, France
Journal of Cell Biology 136 (1). 1997. 29-43.
Full Journal Title: Journal of Cell Biology
ISSN: 0021-9525
Language: ENGLISH
Print Number: Biological Abstracts Vol. 103 Iss. 005 Ref. 066919
Here we report that DNA decatenation is not a physical requirement for the formation of mammalian chromosomes containing a two-armed chromosome %scaffold%. 2-%aminopurine% override of G-2 arrest imposed by VM-26 or ICRF-193, which inhibit topoisomerase II (topo II)-dependent DNA decatenation, results in the activation of p34-cdc2 kinase and entry into mitosis. After override of a VM-26-dependent checkpoint, morphologically normal compact chromosomes form with paired axial cores containing topo II and ScII. Despite its capacity to form chromosomes of normal appearance, the chromatin remains covalently complexed with topo II at continuous levels during G-2 arrest with VM-26. Override of an ICRF-193 block, which inhibits topo II-dependent decatenation at an earlier step than VM-26, also generates chromosomes with two distinct, but elongated, parallel arms containing topo II and ScII. These data demonstrate that DNA decatenation is required to pass a G-2 checkpoint, but not to restructure chromatin for chromosome formation. We propose that the chromosome core structure is templated during interphase, before DNA decatenation, and that condensation of the two-armed chromosome scaffold can therefore occur independently of the formation of two intact and separate DNA helices.

... not a physical requirement for the formation of mammalian chromosomes containing a two-armed chromosome %scaffold%. 2-%aminopurine% override of G-2 arrest imposed by VM-26 or ICRF-193, which inhibit topoisomerase...

2/3,AB,KWIC/2 (Item 2 from file: 5)
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12132962 BIOSIS Number: 98732962
Nonpeptidic inhibitors of human neutrophil elastase. 7. Design, synthesis, and in vitro activity of a series of pyridopyrimidine trifluoromethyl ketones

Edwards P D; Andisik D W; impler A M; Gomes B; Tuthill P A
Dep. Medicinal Chemistry, RCA Pharmaceuticals, Business Unit NECA Inc., 1800 Concord Pike, PO Box 15437, Wilmington, DE 19850-5437, USA
Journal of Medicinal Chemistry 39 (5). 1996. 1112-1124.
Full Journal Title: Journal of Medicinal Chemistry
ISSN: 0022-2623
Language: ENGLISH
Print Number: Biological Abstracts Vol. 101 Iss. 008 Ref. 117237

Using molecular modeling and the information derived from X-ray crystal structures of human neutrophil elastase (HNE) and porcine pancreatic elastase (PPE) complexed to peptidic ligands, we have developed a new series of nonpeptidic inhibitors of HNE, the pyridopyrimidine trifluoromethyl ketones (TFMKs). These bicyclic inhibitors were designed to extend the concept of the related pyridone trifluoromethyl ketones by incorporating a rigidly positioned carbonyl group to participate in a hydrogen bonding interaction with the backbone NH groups of Gly-218 and Gly-219 of the enzyme. In addition, the %pyrimidine% ring serves as a %scaffold% to vector substituents toward the S-5-S-4 subsites of the enzyme's extended binding pocket. Furthermore, the heteroatoms of the pyrimidine ring generally increase the aqueous solubility of the pyridopyrimidines relative to pyridone TFMKs. Pyridopyrimidine TFMKs containing a 6-phenyl substituent afforded potent inhibitors of elastase, and several inhibitors from this class of compounds possessed aqueous solubilities of gt 0. 1 mg/mL and K-i values of lt 10 nM.

... backbone NH groups of Gly-218 and Gly-219 of the enzyme. In addition, the %pyrimidine% ring serves as a %scaffold% to vector substituents toward the S-5-S-4 subsites of the enzyme's extended...

2/3,AB,KWIC/3 (Item 3 from file: 5)
DIALOG(R)File 5:BIOSIS PREVIEWS(R)
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11113746 BIOSIS Number: 97313746
Molecular analysis of transgenic plants generated by microprojectile bombardment: Effect of petunia transformation booster sequence
Buising C M; Benbow R M
Dep. Zool. Genetics, Nucleic Acid Res. Facil., Mol., Cellular Developmental Biol. Program, Iowa State Univ., Ames, IA 50011-3223, USA
Molecular & General Genetics 243 (1). 1994. 71-81.
Full Journal Title: Molecular & General Genetics
ISSN: 0026-8925
Language: ENGLISH
Print Number: Biological Abstracts Vol. 098 Iss. 002 Ref. 020258

Supercoiled plasmid expression vectors containing the petunia transformation booster sequence (TBS) were introduced by microprojectile bombardment into dicotyledenous (tobacco) and monocotyledonous (maize) cells. TBS effected a 7.8- to 16-fold increase in transformation frequencies in tobacco, and a 1.7- to 2.4-fold increase in maize. Although TBS contains a well-defined transcription enhancer element, no increases in plasmid gene expression were observed. TBS did not alter integration patterns in transformants, and did not affect segregation of linkage in R-1 progeny. Computer analyses of the TBS sequence revealed numerous modular elements previously shown to be associated with putative chromosomal replication origin regions in eukaryotes, including DNA unwinding elements, %scaffold%-associated regions and %pyrimidine% tracts.

... to be associated with putative chromosomal replication origin regions in eukaryotes, including DNA unwinding elements, %scaffold%-associated regions and %pyrimidine% tracts.

2/3,AB,KWIC/4 (Item 1 from file: 99)
DIALOG(R)File 99:Wilson Appl. Sci & Tech Abs
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1381198 H.W. WILSON RECORD NUMBER: BAST96048570
A structure-based library approach to kinase inhibitors
Norman, Thea C; Gray, Nathanael S; Koh, John T
Journal of the American Chemical Society v. 118 (Aug. 7 '96) p. 7430-1
DOCUMENT TYPE: Feature Article ISSN: 0002-7863

ABSTRACT: Structural information and combinatorial methodology were combined to develop a strategy for optimizing the potency of olomoucine. Olomoucine is a relatively selective inhibitor of cyclin-dependent kinases. Solid-phase syntheses were conducted, and combinatorial libraries based on the %purine% %scaffold% found in olomoucine were screened. The synthesis

was performed in a spatially separated environment using Geysen's apparatus in order to facilitate both the chemical and biological evaluation of soluble olomoucine analogues.

...ABSTRACT: of cyclin-dependent kinases. Solid-phase syntheses were conducted, and combinatorial libraries based on the %purine% %scaffold% found in olomoucine were screened. The synthesis was performed in a spatially separated environment using...

2/3,AB,KWIC/5 (Item 1 from file: 654)
DIALOG(R)File 654:US PAT.FULL.

02666028

Utility
COMBINATORIAL NON-PEPTIDE LIBRARIES

PATENT NO.: 5,646,285
ISSUED: July 08, 1997 (19970708)
INVENTOR(s): Baindur, Nand, Edmonds, WA (Washington), US (United States of America)
Labroo, Virender M., Mill Creek, WA (Washington), US (United States of America)
ASSIGNEE(s): ZymoGenetics, Inc, (A U.S. Company or Corporation), Seattle, WA (Washington), US (United States of America)
[Assignee Code(s): 17415]
APPL. NO.: 8-483,496
FILED: June 07, 1995 (19950607)

FULL TEXT: 1549 lines

ABSTRACT

The present invention relates to an orthogonally-protected compound of the formula: [See structure in original document] wherein PG sub 1 is a first protecting group that is unreactive to a chemistry used at another position within the compound, and that is capable of selective removal without affecting PG sub 2 or linkage to a solid support; PG sub 2 is a second protecting group that is unreactive to a chemistry used at another position within the compound, and that is capable of selective removal without affecting PG sub 1 or linkage to a solid support; Y is CH sub 2 COOH, CH sub 2 SO sub 2 OH, CH sub 2 PO sub 2 ROH, CH sub 2 Ph--COOH, CH sub 2 Ph--SO sub 2 OH, or CH sub 2 Ph--PO sub 2 ROH; R is H or a substituted or unsubstituted alkyl, cycloalkyl, aryl, arylalkyl, heteroaryl, or heteroarylalkyl; and n is 1 or 2. PG sub 1 is preferably a carbamate group, a trityl group, or a trifluoroacetyl group; and PG sub 2 is preferably an ester.

... that interact agonistically or antagonistically with proteins. With oligonucleotides, sugar-phosphate bonds serve as a "%scaffold%" on which %purine% and %pyrimidine% bases are arranged in a sequence and in a topologically defined fashion. Non-nucleotide oligomers...
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$5.80 4 Type(s) in Format 5 (UDF)
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     $0.15  FTSNET
    $10.79  Estimated cost this search
    $14.13  Estimated total session cost   0.154 Hrs.
Logoff: level 98.03.26 D  06:17:46
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$%^Dialog;HighlightOn=%%%;HighlightOff=%%%;
Trying 9158046...Open


box200> enter system id

Logging in to Dialog



DIALOG INFORMATION SERVICES
PLEASE LOGON:
********
IALOG Invalid account number

DIALOG INFORMATION SERVICES
PLEASE LOGON:
********
ENTER PASSWORD:
x050fjxh
********
Welcome to DIALOG

Dialog level 98.04.30D

Last logoff: 30apr98 16:12:31
Logon file001 30apr98 19:36:51
* * * As of March 23,1998, SRC1, INFO, and EIDDS will no longer be part
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File  1:ERIC  1966-1998/Feb
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    $0.03  Estimated cost this search
    $0.03  Estimated total session cost  0.001 Hrs.

File 410:Chronolog(R)  1981-1998/May
     (c) 1998 The Dialog Corporation plc

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HILIGHT set on as '%%%%%%%'
%%%HILIGHT set on as '%%%'
? recall temp

 Name     Date      Time   Size
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TDIMIDAZ  25apr98  19:32:05    2
TDNO      25apr98  17:11:04    2
TDNO2     26apr98  16:32:50    2
TDRICIN   23apr98  11:28:02    2
TDXANTH   30apr98  16:12:32    2
? begin 654

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    $0.51  Estimated total session cost  0.065 Hrs.

File 654:US PAT.FULL.  1990-1998/Apr 21
     (c) format only 1998 The Dialog Corp.
*File 654: Reassignment data now current through 03/24/98.
Reexamination, extension, expiration, reinstatement updated weekly.

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HILIGHT set on as '%'
Processing
Processing
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        7494  PYRIMIDINE? ?
         998  SCAFFOLD? ?
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       90750  SYNTHESI?????
      599069  PRODUC?????
      231872  MIXTURE? ?
       13548  LIBRAR????
       45152  MIX
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              LIBRAR????) OR MIX)
   S1      1  (PURINE? ? OR PYRIMIDINE? ?) (10N) SCAFFOLD? ? AND
              (SYNTHESI????? OR PRODUC?????) (10N) (MIXTURE? ? OR
              LIBRAR???? OR MIX)
? t s1/3,ab/1


 1/3,AB/1
DIALOG(R)File 654:US PAT.FULL.
(c) format only 1998 The Dialog Corp. All rts. reserv.

        02666028
Utility
COMBINATORIAL NON-PEPTIDE LIBRARIES

PATENT NO.:  5,646,285
ISSUED:      July 08, 1997 (19970708)
INVENTOR(s): Baindur, Nand, Edmonds, WA (Washington), US (United States of
             America)
             Labroo, Virender M., Mill Creek, WA (Washington), US (United
             States of America)
ASSIGNEE(s): ZymoGenetics, Inc, (A U.S. Company or Corporation), Seattle,
             WA (Washington), US (United States of America)
             [Assignee Code(s): 17415]
APPL. NO.:   8-483,496
FILED:       June 07, 1995 (19950607)

FULL TEXT:       1549 lines

                    ABSTRACT

The present invention relates to an orthogonally-protected compound of the
formula: [See structure in original document] wherein PG sub 1 is a first
protecting group that is unreactive to a chemistry used at another position
within the compound, and that is capable of selective removal without
affecting PG sub 2 or linkage to a solid support; PG sub 2 is a second
protecting group that is unreactive to a chemistry used at another position
within the compound, and that is capable of selective removal without
affecting PG sub 1 or linkage to a solid support; Y is CH sub 2 COOH, CH
sub 2 SO sub 2 OH, CH sub 2 PO sub 2 ROH, CH sub 2 Ph--COOH, CH sub 2
Ph--SO sub 2 OH, or CH sub 2 Ph--PO sub 2 ROH; R is H or a substituted or
unsubstituted alkyl, cycloalkyl, aryl, arylalkyl, heteroaryl, or
heteroarylalkyl; and n is 1 or 2. PG sub 1 is preferably a carbamate group,
a trityl group, or a trifluoroacetyl group; and PG sub 2 is preferably an
ester.
? t s1/k/1


 1/K/1
DIALOG(R)File 654:(c) format only 1998 The Dialog Corp. All rts. reserv.

... billions of peptides) can now be generated and analyzed. By using
standard, solid phase peptide %synthesis% methods in conjunction with a
resin proportioning (split) and %mix% technique protocol (see, for
instance, A. Furuka et al., Abstr. 14th International Congress of
Biochemistry...

... 354: 82-84, 1991; and R. Houghten et al., Nature 354:84-86, 1991),
equimolar %mixtures% of peptides with one unique sequence per bead can be
%produced%. Deconvolution of these peptide %libraries% is accomplished by
subjecting peptide %mixtures% (in solution) to bioassays in an iterative
fashion (for instance, as described by R. Houghten...may not be amenable to
a solid phase assay format.

 Methods have been developed for %synthesis% and deconvolution of
nucleotide-encoded peptide %libraries% (N. Needels et al., Proc. Natl.
Acad. Sci. U.S.A. 90:10700-04, 1993...
... quickly optimized by synthesizing a large number of analogs by
combinatorial and/or parallel robotic %synthesis%. Peptide %libraries%
generated using heterochiral amino acids, all D-amino acids and
non-proteinogenic amino acids represent...peptide analogs already possess
linkages stable to proteolysis and/or acidolysis. Therefore, a collection
or %library% of lead peptide analogs does not have to be designed,
%synthesized% and tested after identification of a bioactive lead peptide,
saving time and resources.

 In one... that interact agonistically or antagonistically with proteins.
With oligonucleotides, sugar-phosphate bonds serve as a "%scaffold%" on
which %purine% and %pyrimidine% bases are arranged in a sequence and in a
topologically defined fashion. Non-nucleotide oligomers...Finally, cleavage
of the resin with BBr sub 3 and an amine provided the tetraamide %product%
. A %mixture% of two racemates should result from use of pure cis-cis exo
and endo isomers...employ innovative uses of principles and technologies of
organic synthesis, peptide synthesis, and peptide combinatorial %synthesis%
 to generate petidergic, peptidomimetic and small molecule %libraries%
 comparable in size and complexity to peptide libraries.

 In one aspect of the invention, an... standard peptide chemistry
appropriate to a variety of acidic compounds. At each step during the
%synthesis% of this prototypical combinatorial %library%, the compounds are
thoroughly washed with DMF to remove any unreacted reagents and by-products
...

... times to ensure complete removal of all volatile components. The pools
are then screened as %mixtures% (similar to natural %product% screening)
for bioactivity in various assays. After screening, any interesting or
active compound pools are re-%synthesized% as sub-%libraries%, wherein the
combine and split steps are incrementally removed in a reverse direction.
Alternatively, a... pseudopeptide trimers, tetramers or higher order
oligomers of any desirable length.

 In step (2), combinatorial %library% %synthesis% using these monomers is
carried out in several steps. First, these monomers are loaded in...found
to be active in any of the screens, the pool is reiteratively deconvoluted
by %synthesis% and screening of sub-%libraries% (see, e.g., R. Houghten et
al., Nature 354:84, 1991).
G. PROTOTYPICAL SCAFFOLD APPROACH...This scaffold molecule is purified and
characterized by methods known in the art of organic %synthesis%.

 In step (2), combinatorial %library% %synthesis% using this novel,
orthogonally-protected tri-functional scaffold is carried out in several
steps. First... any pool is found active in any of the screens, it is
reiteratively deconvoluted by %synthesis% and screening of sub-%libraries%
```

In step (14), step (2) is repeated, except, instead of using commercially available pre-loaded...

...as recited above.

Alternatively, Boc-trans-3-hydroxy-L-proline (see below) can also be %synthesized% and used to generate %libraries% by similar methods. [See structure in original document]15##

As described above, the methods and...were placed into each of 14 wells on an Advanced ChemTech ACT396 MPS (Multi-Peptide %Synthesizer%). Alternatively, the resin %mixture% was pipetted from the silanized beaker directly into the Advanced ChemTech 396 MPS as a...The coupling reactions were carried out for 1.5 h with mechanical shaking on the %synthesizer%. After coupling, each of the 14 resin sample %mixtures% was tested using the standard ninhydrin test for free amines. Because some of the amines...the ACT 396 MPS is in a 96 well format, all 4 of these sub-%libraries% were %synthesized% at once. Each well contained 14 compounds, representing the 14 different resin samples used. The...h. It was then concentrated in vacuo to a pale yellow semi-solid.

The crude %product% was taken into 400 ml of a 1:1 %mixture% of acetone (EM Science) and water. Sodium carbonate (Mallinckrodt; 10.6 g, 100 mmols) was... in DCM). sup 1 H NMR spectra showed signals consistent with the structure of the %product%.

Example 6. %Synthesis% of a Peptidomimetic Combinatorial %Library% using N-FMOC-2-allyloxycarbonyl-pyrrolidine-4-oxyacetic acid as an Orthogonally-Protected Tri-functional...

... chlorides, and a diverse set of 20 amines (as listed below; Aldrich), a peptidomimetic combinatorial %library% of 8000 compounds was %synthesized%.

A 0.06 mmol quantity of each of the 20 L-amino acid Wang resins...

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? begin 411

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        $1.25  1 Type(s) in Format  4 (UDF)
      $1.25  2 Types
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  $11.21  Estimated cost this search
  $11.72  Estimated total session cost   0.148 Hrs.
File 411:DIALINDEX(R)

DIALINDEX(R)
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*** DIALINDEX search results display in an abbreviated ***
*** format unless you enter the SET DETAIL ON command. ***
? set files allchem allmed

  You have 174 files in your file list.
  (To see banners, use SHOW FILES command)
? (PURINE? ? OR PYRIMIDINE? ?)(8N) (SCAFFOLD? ? or core? ?)
AND(SYNTHESI????? OR PRODUC?????)(10N) (MIXTURE? ? OR LIBRAR???? OR
MIX)

>>>"(" command not valid in DIALINDEX.
? s (PURINE? ? OR PYRIMIDINE? ?)(8N) (SCAFFOLD? ? or core? ?)
AND(SYNTHESI????? OR PRODUC?????)(10N) (MIXTURE? ? OR LIBRAR???? OR
MIX)


Your SELECT statement is:
  s (PURINE? ? OR PYRIMIDINE? ?)(8N) (SCAFFOLD? ? or core? ?)
AND(SYNTHESI????? OR PRODUC?????)(10N) (MIXTURE? ? OR LIBRAR???? OR
MIX)

      Items   File
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          1   144: Pascal_1973-1998/Apr
    Examined  50 files
Processing
          9   348: EUROPEAN PATENTS_1978-1998/Apr W17
    Examined 100 files
          1   434: Scisearch(R) Cited Ref Sci_1974-1998/Apr W3
          6   653: US Patents Fulltext_1980-1989
Processing
         25   654: US PAT.FULL._1990-1998/Apr 21
          1   149: IAC(SM)Health&Wellness DB(SM)_1976-1998/Apr W4
    Examined 150 files
          1   440: Current Contents Search(R)_1990-1998/Apr W4

  8 files have one or more items; file list includes 174 files.

? save temp purine

Temp SearchSave "TDPURINE" stored
? rl

Your last SELECT statement was:
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AND(SYNTHES-
I????? OR PRODUC?????)(10N) (MIXTURE? ? OR LIBRAR???? OR MIX)
Ref     Items   File
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N1         25   654: US PAT.FULL._1990-1998/Apr 21
N2          9   348: EUROPEAN PATENTS_1978-1998/Apr W17
N3          6   653: US Patents Fulltext_1980-1989
N4          1   103: Energy SciTec_1974-1998/Apr B2
N5          1   144: Pascal_1973-1998/Apr
N6          1   434: Scisearch(R) Cited Ref Sci_1974-1998/Apr W3
N7          1   149: IAC(SM)Health&Wellness DB(SM)_1976-1998/Apr W4
N8          1   440: Current Contents Search(R)_1990-1998/Apr W4
N9          0     2: INSPEC_1969-1998/Apr W4
N10         0     5: BIOSIS PREVIEWS(R)_1969-1998/Apr W4
  8 files have one or more items; file list includes 174 files.

     - Enter P or PAGE for more -
? begin n2-n7

    30apr98 19:53:15 User233832 Session D95.6
      $4.98   0.166 Hrs File411
  $4.98  Estimated cost File411
  $4.98  Estimated cost this search
  $16.70  Estimated total session cost   0.315 Hrs.

SYSTEM:OS - DIALOG OneSearch
  File 348:EUROPEAN PATENTS 1978-1998/Apr W17
       (c) 1998 EUROPEAN PATENT OFFICE
*File 348: *** All EPO Fulltext data is now online and current! ***
New fulltext will be added weekly. See HELP NEWS 348 for details.
  File 653:US Patents Fulltext 1980-1989
       (c) format only 1998 The Dialog Corp.
*File 653: Reassignment data now current through 03/24/98.
Reexamination, extension, expiration, reinstatement updated weekly.
  File 103:Energy SciTec 1974-1998/Apr B2
       (c) 1998 Contains copyrighted material
*File 103:  For access restrictions, see HELP RESTRICT.
  File 144:Pascal 1973-1998/Apr
       (c) 1998 INIST/CNRS
  File 434:Scisearch(R) Cited Ref Sci 1974-1998/Apr W3
       (c) 1998 Inst for Sci Info
  File 149:IAC(SM)Health&Wellness DB(SM) 1976-1998/Apr W4
       (c) 1998 Info Access Co

    Set  Items  Description
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? exs

Executing TDPURINE
HILIGHT set on as '%'
Processing
Processing
Processing
Processing
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        52851  PYRIMIDINE? ?
         3662  SCAFFOLD? ?
       377782  CORE? ?
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      3452493  PRODUC?????
       782770  MIXTURE? ?
       107541  LIBRAR????
        81985  MIX
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               LIBRAR????) OR MIX)
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? rd

>>>Duplicate detection is not supported for File 348.
>>>Duplicate detection is not supported for File 653.

>>>Records from unsupported files will be retained in the RD set.
...completed examining records
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? s s2 not py>1997

          18  S2
      304339  PY>1997
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? t s3/3,ab,k/1-17


 3/3,AB,K/1    (Item 1 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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00794551
ORDER fax of complete patent from Dialog SourceOne. See HELP ORDER 348
Liquid crystal compound and liquid crystal composition containing the same
Flussigkristallverbindung und diese enthaltende Flussigkristall-Zusammenset
  zung
Compose de crystal liquide et composition crystalline liquide contenant ce
  compose
PATENT ASSIGNEE:
  Takasago International Corporation, (922080), 19-22, Takanawa 3-chome
    Minato-ku, Tokyo, (JP), (applicant designated states: DE;GB;NL)
INVENTOR:
  Iwaya, Yukiharu, c/o Takasago International Corp., Central Research Lab.,
    4-11, Nishiyawata 1-chome, Hiratsuka-shi, Kanagawa, (JP)
  Yamada, Mamoru, c/o Takasago International Corp., Central Research Lab.,
    4-11, Nishiyawata 1-chome, Hiratsuka-shi, Kanagawa, (JP)
  Kondo, Hitoshi, c/o Takasago International Corp., Central Research Lab.,
    4-11, Nishiyawata 1-chome, Hiratsuka-shi, Kanagawa, (JP)
  Hagiwara, Toshimitsu, c/o Takasago Int. Corp., Central Research Lab.,
    4-11, Nishiyawata 1-chome, Hiratsuka-shi, Kanagawa, (JP)
LEGAL REPRESENTATIVE:
  Bubb, Antony John Allen et al (28901), GEE & CO. Chancery House Chancery
    Lane, London WC2A 1QU, (GB)
```

PATENT (CC, No, Kind, Date): EP 739884 A2 961030 (Basic)
EP 739884 A3 971203
APPLICATION (CC, No, Date): EP 96302864 960424;
PRIORITY (CC, No, Date): JP 95120464 950424
DESIGNATED STATES: DE; GB; NL
INTERNATIONAL PATENT CLASS: C07D-239/26; C07D-213/30; C07D-237/08; C07D-241/12; C07C-069/035; C09K-019/34; C09K-019/02;

ABSTRACT EP 739884 A2
A liquid crystal compound represented by formula (I) and a liquid crystal composition containing the same. The compound exhibits an antiferroelectric liquid crystal phase and has good compatibility with known liquid crystal compounds. (see image in original document) wherein R(sup(1) represents a straight-chain or branched alkyl, alkoxy, alkoxycarbonyl, alkanoyloxy or alkoxycarbonyloxy group having 4 to 16 carbon atoms; R(sup(2) represents a straight-chain alkyl group having 4 to 10 carbon atoms or a branched alkyl group containing 1 to 3 carbon atoms in its branch and 4 to 12 carbon atoms in total; X represents an oxygen or sulfur atom; rings A and B each represent an F-substituted or unsubstituted phenylene group, a cyclohexylene group or a divalent nitrogen-containing heterocyclic group, provided that either one of rings A and B is the nitrogen-containing heterocyclic group; ring C represents an F-substituted or unsubstituted phenylene group; and C* represents an asymmetric carbon atom. (see image in original document)

ABSTRACT WORD COUNT: 183

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:
Available Text Language Update Word Count
CLAIMS A (English) EPAB96 290
SPEC A (English) EPAB96 11194
Total word count - document A 11484
Total word count - document B 0
Total word count - documents A + B 11484

ORDER fax of complete patent from Dialog SourceOne. See HELP ORDER 348

...SPECIFICATION either in a temperature rise or drop. Accordingly, it is understood that a compound whose %core% (i.e., 2,5-%diphenylpyrimidine% skeleton) is the same as that of the compound of Example 1 but different in...Fluoro-4-((S)-2,6-dimethyl heptanoyloxy)phenyl)-5-(4-decyloxy-3-fluorophenyl)-pyridine

1) %Synthesis% of 2-Fluoro-4-benzyloxybromobenzene:
A %mixture% of 64.6 g (338 mmol) of 2-fluoro-4-hydroxybromobenzene, 53.1 g (389...The reaction product was then put into an aqueous solution of ammonium chloride. The reaction %product% was extracted with a 1 : 1 (by volume) %mixture% of toluene and ethyl acetate, and then dried. The reaction %product% was then purified by silica gel column chromatography to obtain 24.5 g of the...

3/3,AB,K/2 (Item 2 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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00600094
ORDER fax of complete patent from Dialog SourceOne. See HELP ORDER 348
Ferroelectric liquid crystal compounds with cyclohexenyl cores and compositions containing them.
Ferroelektrische-Flussigkristallverbindungen mit Cyclohexenylkernen und Zusammensetzungen die sie enthalten.
Composes de cristaux liquides ferroelectriques a noyaux de cyclohexene et compositions les contenant.
PATENT ASSIGNEE:
DISPLAYTECH, INCORPORATED, (1025440), 2200 Central Avenue, Suite A, Boulder Colorado 80301, (US), (applicant designated states: DE;FR;GB)
INVENTOR:
Wand, Michael D., 2910 Regis Drive, Boulder, Colorado 80303, (US)
Vohra, Rohini T., 3877 Arbol Court, Boulder, Colorado 80301, (US)
More, Kundalika M., 1930 S. York Street, No. 202, Denver, Colorado 80210, (US)
Thurmes, William N., 7140 Mount Sherman, Longmont, Colorado 80503, (US)
LEGAL REPRESENTATIVE:
Fisher, Adrian John (52611), CARPMAELS & RANSFORD 43 Bloomsbury Square, London WC1A 2RA, (GB)
PATENT (CC, No, Kind, Date): EP 582489 A1 940209 (Basic)
APPLICATION (CC, No, Date): EP 93306244 930806;
PRIORITY (CC, No, Date): US 926503 920807
DESIGNATED STATES: DE; FR; GB
INTERNATIONAL PATENT CLASS: C09K-019/34;

ABSTRACT EP 582489 A1
Ferroelectric liquid crystal compounds and compositions containing cyclohexenyl derivatives are provided. Specifically provided are compounds of formula: (see image in original document) wherein R(sub 1) and R(sub 2) can be an alkyl, cycloalkyl, alkenyl, alkoxy, thioalkyl, alkylsilyl group having from one to about twenty carbon atoms. Y denotes -COO-, -OOC-, -CH(sub 2)O-, or -OCH(sub 2)-; and Ar(sub 1) and Ar(sub 2), independently of one another, can be selected from the group consisting of phenyl rings, halogenated phenyl rings and nitrogen-containing aromatic groups. In preferred embodiments the compounds of this invention contain at least one nitrogen-containing aromatic ring. Ar(sub 1) and Ar(sub 2) can be selected from 1,4-phenyl, mono- or dihalogenated 1,4-phenyl, 2,5-pyridinyl, 2,5-pyrimidyl, 2,5-pyrazinyl, 2,5-thiadiazole, 3,6-pyridazinyl and 1,4-cyclohexyl either or both be chiral racemic groups or chiral nonracemic groups.
ABSTRACT WORD COUNT: 131
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:
Available Text Language Update Word Count
CLAIMS A (English) EPABF2 338
SPEC A (English) EPABF2 9708
Total word count - document A 10046
Total word count - document B 0
Total word count - documents A + B 10046

ORDER fax of complete patent from Dialog SourceOne. See HELP ORDER 348

...SPECIFICATION reports of compounds containing two or more aromatic rings such as those having phenylbenzoate, biphenyl, %phenylpyrimidine%, phenylpyridine and related %cores% coupled to chiral tail units which possess smectic C* phases displaying fast switching speeds at...lower range of the C* phase, thereby broadening the useful temperature range of the FLC %mixture%.
The ease of %synthesis% of the cyclohexenyl compounds, as compared to their cyclohexyl counterparts, represents yet another advantage of...a known FLC host material, such as the phenylpyrimidine host material MX5343 (see Table 4), %mixtures% are %produced% which possess ferroelectric smectic C* phases. These %mixtures% exhibit improved tilt angle, C* pitch, switching speed and mixing properties relative to FLC mixtures...

...the subject cyclohexenyl compounds exhibit smectic C* phases over a broader temperature range than FLC %mixtures% containing analogous cyclohexyl compounds.
EXAMPLES
Example 1: %Synthesis% of Cyclohexenylmethyl Ethers
This example illustrates the procedures for synthesis of cyclohexenyl ethers (Scheme I...mixture. The combined organic layers were then washed with saturated NaCl, and dried over a %mixture% of anhydrous sodium sulfate and potassium carbonate. The %product% was purified by recrystallization from 5:1 (v/v) acetonitrile:ethyl acetate (ca. 200 ml ...The product was purified by chromatography using a 9:1 (v/v) hexane:ethyl acetate %mixture%, affording 824 mg (85% yield) of a white solid. The %product%, 2-(4'-((4-(4-methyl-3-pentenyl)-3-cyclohexenyl)-carbonyloxy)-phenyl)-5-de cylpyrimidine, was further...buffer solution (pH 7). The organic layer is dried over sodium sulfate, and the reaction %mixture% is fractionally distilled to %produce% the %product%, 2-pentyl-1,3-butadiene, as a non-viscous liquid.
Ethyl acrylate (1.92 ml...

3/3,AB,K/3 (Item 3 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
(c) 1998 EUROPEAN PATENT OFFICE. All rts. reserv.

00520222
ORDER fax of complete patent from Dialog SourceOne. See HELP ORDER 348
Liquid crystalline substituted dihydrobenzene derivatives.
Flussigkristalline substituierte Dihydrobenzenderivate.
Derives de dihydrobenzene substitue en tant que cristaux liquides.
PATENT ASSIGNEE:
L.C.C. CONSULTANTS CO., LTD., (1511030), 23-22, 3-chome, Tabata, Kita-ku, Tokyo 114, (JP), (applicant designated states: CH;DE;FR;GB;IT;LI)
CITIZEN WATCH CO. LTD., (628272), 1-1 Nishishinjuku 2-chome, Shinjuku-Ku Tokyo 163, (JP), (applicant designated states: CH;DE;FR;GB;IT;LI)
INVENTOR:
Sato, Hisato, 23-22, 3-chome Tabata, Kita-ku, Tokyo 114, (JP)
Naito, Tomijiro, 81-2, Kami-machi,Oyaguti, Itabashi-ku, Tokyo 173, (JP)
Tsuji, Yasunobu, 26-5, 3-chome Sayamadai, Sayama-shi, Saitama-ken 350-13, (JP)
LEGAL REPRESENTATIVE:
Wachtershauser, Gunter, Dr. (12711), Tal 29, D-80331 Munchen, (DE)
PATENT (CC, No, Kind, Date): EP 571652 A1 931201 (Basic)
APPLICATION (CC, No, Date): EP 92108992 920527;
PRIORITY (CC, No, Date): EP 92108992 920527
DESIGNATED STATES: CH; DE; FR; GB; IT; LI
INTERNATIONAL PATENT CLASS: C07C-013/28; C09K-019/30; C07C-025/18; C07C-043/215; C07C-069/76; C07C-255/50; G02F-001/13;

ABSTRACT EP 571652 A1
Particular 1,4-substituted dihydrobenzene derivatives are useful as liquid crystalline materials. They are represented by the following formula (I): (see image in original document) wherein A means a 1,4-dihydrophenylene group, R denotes a hydrogen atom or an alkyl or trans-4-alkylcyclohexyl group, R' represents a hydrogen or halogen atom, a trifluoromethyl, trifluoromethoxy, cyano, alkyl, alkoxyl or carboxyl group or a group -COO-B-R" in which B stands for an unsubstituted or halogen-substituted 1,4-phenylene or 1,4-cyclohexenylene group and R" represents a halogen atom or a cyano, alkyl or alkoxyl group, and X, Y and Z individually mean a hydrogen or halogen atom.
ABSTRACT WORD COUNT: 100

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:
Available Text Language Update Word Count
CLAIMS A (English) EPABF1 223
SPEC A (English) EPABF1 11176
Total word count - document A 11399
Total word count - document B 0
Total word count - documents A + B 11399

ORDER fax of complete patent from Dialog SourceOne. See HELP ORDER 348

...SPECIFICATION employed including, for example, compounds containing benzene as a core, compounds with cyclohexane as a %core%, compounds having cyclohexene as a %core%, compounds having %pyrimidine% as a %core% , compounds with dioxane as a %core%, and compounds containing two or more of these moieties as a core. Even if they...a saturated aqueous solution of ammonium chloride or the like is added to the reaction %mixture% to hydrolyze the reaction %product%. The resulting hydrolysate is then extracted with diethyl ether or the like, washed with water...

3/3,AB,K/4 (Item 4 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS
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00507378
ORDER fax of complete patent from Dialog SourceOne. See HELP ORDER 348
FERROELECTRIC LIQUID CRYSTAL COMPOSITIONS CONTAINING CHIRAL HALOALKOXY TAIL
UNITS.
FERROELEKTRISCHE FLUSSIGKRISTALLZUSAMMENSETZUNGEN ENTHALTEND CHIRALE
HALOALKOXY-ENDSTUCKE.
COMPOSITIONS DE CRYSTAUX LIQUIDES FERRO-ELECTRIQUES CONTENANT DE S UNITES
DE QUEUE D'HALOALCOXY CHIRAL.
PATENT ASSIGNEE:
DISPLAYTECH, INCORPORATED, (1025440), 2200 Central Avenue, Suite A, Boulder Colorado 80301, (US), (applicant designated states: DE;GB;SE)
INVENTOR:
WAND, Michael, 2910 Regis Drive, Boulder, CO 80303, (US)
THURMES, William, N., 7140 Mount Sherman, Longmont, CO 80503, (US)
WALBA, David, 3199 Westwood Court, Boulder, CO 80302, (US)
LEGAL REPRESENTATIVE:
Fisher, Adrian John (52611), CARPMAELS & RANSFORD 43 Bloomsbury Square, London WC1A 2RA, (GB)
PATENT (CC, No, Kind, Date): EP 540648 A1 930512 (Basic)
EP 540648 A1 930804
EP 540648 B1 950510
WO 9201765 920206
APPLICATION (CC, No, Date): EP 91914316 910722; WO 91US5134 910722
PRIORITY (CC, No, Date): US 556656 900720
DESIGNATED STATES: DE; GB; SE
INTERNATIONAL PATENT CLASS: C09K-019/58; C09K-019/34; C09K-019/20; C09K-019/12; C07D-239/26; C07C-069/76; G02F-001/13;
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:
Available Text Language Update Word Count
CLAIMS B (English) EPAB95 292
CLAIMS B (German) EPAB95 266
CLAIMS B (French) EPAB95 302
SPEC B (English) EPAB95 7231
Total word count - document A 0
Total word count - document B 8091
Total word count - documents A + B 8091

ORDER fax of complete patent from Dialog SourceOne. See HELP ORDER 348

...SPECIFICATION nC/cm(sup 2).
There are a number of reports of compounds containing phenylbenzoate, diphenyl, %phenylpyrimidine% and related %cores% coupled to chiral tail units which possess monotropic smectic C* phases displaying fast switching speeds...Patent Application, Pub. No. 263437 refers to chiral aryl-2,3-epoxyalkylethers FLC compounds having %phenylpyrimidine% or phenylpyridazine %cores% of the formula: (see image in original document)

where A is a diazine-2,5...aromatic. Cores containing at least two or three aromatic rings are preferred such as those %cores% based on phenylbenzoates, phenylpyridines, %phenylpyrimidines%, biphenyls, terphenyls, biphenyl pyridines, biphenylpyrimidines and biphenylbenzoates wherein the tail groups are located on non...those in Table 2 are mixed with a known FLC host material, such as W82, %mixtures% are %produced% which possess ferroelectric smectic C(sup(*) phases with improved polarization densities relative to that of...degree)C, giving a yield of 128 g of a 1:1 (by gas chromatograph) %mixture% of the desired acetonide (II) and an unidentified side %product%.
To a three liter oven-dried 3-neck flask equipped with a mechanical stirring rod...

3/3,AB,K/5 (Item 5 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
(c) 1998 EUROPEAN PATENT OFFICE. All rts. reserv.

00439485
ORDER fax of complete patent from Dialog SourceOne. See HELP ORDER 348
Novel phosphonate derivatives of certain nucleosides.
Phosphonatderivate von bestimmten Nucleosiden.
Derives phosphonates de certains nucleosides.
PATENT ASSIGNEE:
MERRELL DOW PHARMACEUTICALS INC., (433650), 2110 East Galbraith Road, Cincinnati Ohio 45215-6300, (US), (applicant designated states: FR)
INVENTOR:
Halazy, Serge, 2 Rue Hans Haug, Wolfisheim, F-67200 Strasbourg, (FR)
Casara, Patrick, 12 Rue de la Scierie, F-67117 Ittenheim, (FR)
Neises, Bernhard, Flosserweg 5, W-7600 Offenburg-Griesheim, (DE)
Jund, Karin, 7 Boulevard Clemenceau, F-67000 Strasbourg, (FR)
LEGAL REPRESENTATIVE:
Gillard, Marie-Louise et al (15871), Cabinet Beau de Lomenie 55, Rue d'Amsterdam, F-75008 Paris, (FR)
PATENT (CC, No, Kind, Date): EP 477454 A1 920401 (Basic)
APPLICATION (CC, No, Date): EP 90402695 900928;
PRIORITY (CC, No, Date): EP 90402695 900928
DESIGNATED STATES: FR
INTERNATIONAL PATENT CLASS: C07H-019/10; C07H-019/20; A61K-031/70;

ABSTRACT EP 477454 A1
This invention relates to novel phosphonate derivatives of certain nucleoside analogs, to the methods for their preparation and to their use as anti-viral agents.
ABSTRACT WORD COUNT: 26

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:
Available Text Language Update Word Count
CLAIMS A (English) EPABF1 354
SPEC A (English) EPABF1 5880
Total word count - document A 6234
Total word count - document B 0
Total word count - documents A + B 6234

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...SPECIFICATION 6-diaminopurine
xanthine
hypoxanthine
In practice, it is preferred to employ bases having either a %pyrimidine% or a %purine% %core% structure nucleus (including their lactam, lactim and/or tautomeric forms). Preferred pyrimidine type bases are...water (10 ml) is added and dicyclohexylurea is filtered off. Then the pH of the %mixture% is adjusted to 7 with 1M ammonium hydroxyde and the %product% is purified by ion exchange chromatography (DOWEX AG 1 4), eluted with 4N formic acid...

3/3,AB,K/6 (Item 6 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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00374305
ORDER fax of complete patent from Dialog SourceOne. See HELP ORDER 348
Novel fluorophosphonate nucleotide derivatives
Derivate von Fluorphosphonat-Nukleotiden
Derives de nucleotides de fluorophosphonates
PATENT ASSIGNEE:
MERRELL PHARMACEUTICALS INC., (433654), 2110 East Galbraith Road, P.O. Box 156300, Cincinnati, Ohio 45215-6300, (US), (applicant designated states: AT;BE;CH;DE;ES;FR;GB;GR;IT;LI;LU;NL;SE)
INVENTOR:
Casara, Patrick, 12, rue de la Scierie, F-67117 Ittenheim, (FR)
Jund, Karin, 7, Boulevard Clemenceau, F-67000 Strasbourg, (FR)
LEGAL REPRESENTATIVE:
Gillard, Marie-Louise et al (15871), Cabinet Beau de Lomenie 158, rue de l'Universite, 75340 Paris Cedex 07, (FR)
PATENT (CC, No, Kind, Date): EP 335770 A2 891004 (Basic)
EP 335770 A3 901227
EP 335770 B1 970115
APPLICATION (CC, No, Date): EP 89400773 890320;
PRIORITY (CC, No, Date): EP 88400806 880401
DESIGNATED STATES: AT; BE; CH; DE; ES; FR; GB; GR; IT; LI; LU; NL; SE
INTERNATIONAL PATENT CLASS: C07F-009/547; A61K-031/675; C07H-019/10; C07H-019/20; A61K-031/70; C07F-009/40;

ABSTRACT EP 335770 A2
This invention relates to fluoromethylphosphonate derivatives of certain nucleosides, to methods for their preparation and to their use as antiviral and antitumoral agents.
ABSTRACT WORD COUNT: 27

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:
Available Text Language Update Word Count
CLAIMS A (English) EPABF1 1329
CLAIMS B (English) EPAB97 630
CLAIMS B (German) EPAB97 623
CLAIMS B (French) EPAB97 631
SPEC A (English) EPABF1 7590
SPEC B (English) EPAB97 6395
Total word count - document A 8920
Total word count - document B 8279
Total word count - documents A + B 17199
ORDER fax of complete patent from Dialog SourceOne. See HELP ORDER 348

...SPECIFICATION scope of this invention.
In practice, it is preferred to employ bases having either a %pyrimidine% or a %purine% %core% structure nucleus (including their lactam, lactim and/or tautomeric forms). Preferred pyrimidine type bases are...Bistrimethylsilyl difluoromethylphosphonate is distilled (50-60(degree)C, 0.2 mmHg) and to the distilled %product% is added 100 ml of water. The %mixture% is stirred and the solvent removed in vacuo. The expected compound is obtained as a...1 (10 ml) and heated at 50(degree)C for 1.5 h. The reaction %mixture% is then concentrated and the %product% purified by flash chromatography on silica gel (ethyl acetate:hexane, 1:1) (2.2 g...

...3.5 g, 63 mmol) in tetrahydrofuran (30 ml) at room temperature under nitrogen. The %mixture% is stirred overnight and after usual work-up the %product% is purified by flash chromatography on silica gel (ethyl acetate:hexane, 25:75) (2 g...

...SPECIFICATION the scope of this invention.
In practice, it is preferred to employ bases having a %pyrimidine% %core% structure nucleus (including their lactam, lactim and/or tautomeric forms). Preferred pyrimidine type bases are... Bistrimethylsilyl difluoromethylphosphonate is distilled (50-60(degree)C, 0.2 mmHg) and to the distilled %product% is added 100 ml of water. The %mixture% is stirred and the solvent removed in vacuo. The expected compound is obtained as a...1 (10 ml) and heated at 50(degree)C for 1.5 h. The reaction %mixture% is then concentrated and the %product% purified by flash chromatography on silica gel (ethyl acetate:hexane, 1:1) (2.2 g ...

...3.5 g, 63 mmol) in tetrahydrofuran (30 ml) at room temperature under nitrogen. The %mixture% is stirred overnight and after usual work-up the %product% is purified by flash chromatography on silica gel (ethyl acetate:hexane, 25:75) (2 g...

3/3,AB,K/7 (Item 7 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

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00300852
ORDER fax of complete patent from Dialog SourceOne. See HELP ORDER 348
5-Alkoxy-2-(4-alkoxyphenyl)pyrimidine, method for its preparation and use.
5-Alkoxy-2-(4-alkoxyphenyl)pyrimidin, Verfahren zu seiner Herstellung und Verwendung.
Alcoxy-5 (alcoxy-4-phenyl)-2 pyrimidine, procede pour sa preparation et son utilisation.
PATENT ASSIGNEE:
CHISSO CORPORATION, (201684), 6-32, Nakanoshima 3-chome Kitaku, Osaka, (JP), (applicant designated states: AT;BE;CH;DE;FR;GB;IT;LI;LU;NL;SE)
INVENTOR:
Ohno, Kouji, 27-2, Tatsumidai-higashi 3-chome, Ichiharashi Chiba-ken, (JP)
Ushioda, Makoto, 27-2, Tatsumidai-higashi 3-chome, Ichiharashi Chiba-ken, (JP)
Saito, Shinichi, 8890, Goi, Ichiharashi Chiba-ken, (JP)
Miyazawa, Kazutoshi, 17, Tatsumidai-higashi 2-chome, Ichiharashi Chiba-ken, (JP)
LEGAL REPRESENTATIVE:
Hansen, Bernd, Dr.rer.nat. et al (4922), Hoffmann, Eitle & Partner Patentanwalte Arabellastrasse 4 Postfach 81 04 20, D-8000 Munchen 81, (DE)
PATENT (CC, No, Kind, Date): EP 313991 A2 890503 (Basic)
EP 313991 A3 890607
APPLICATION (CC, No, Date): EP 88117500 881020;
PRIORITY (CC, No, Date): JP 87269923 871026
DESIGNATED STATES: AT; BE; CH; DE; FR; GB; IT; LI; LU; NL; SE
INTERNATIONAL PATENT CLASS: C07D-239/34; C09K-019/34;

ABSTRACT EP 313991 A2
A novel smectic C liquid crystal compound useful as a component of ferroelectric liquid crystal materials capable of effecting a quick response is provided, which compound is a smectic C liquid crystalline 5-alkoxy-2-(4-alkoxyphenyl)pyrimidine compound expressed by the formula (see image in original document) wherein (liters) represents an integer of 3 to 18 and m represents an integer of 6 to 18, but when (liters) represents 3 or 6, m represents 7 to 18.
ABSTRACT WORD COUNT: 77

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:
Available Text Language Update Word Count
CLAIMS A (English) EPABF1 586
SPEC A (English) EPABF1 1833
Total word count - document A 2419
Total word count - document B 0
Total word count - documents A + B 2419

ORDER fax of complete patent from Dialog SourceOne. See HELP ORDER 348

...SPECIFICATION has not been considered that the presence of smectic C phase in compounds having the %core% structure of 5-alkoxy-2-(4-alkoxyphenyl)%pyrimidine% might be expected from the above disclosures.
SUMMARY OF THE INVENTION
The object of the...under reflux for 3 hours, distilling off ethanol (about 300 m(liters)) from the reaction %mixture%, adding toluene and water, extracting the objective %product% into the resulting toluene layer, washing the toluene layer with 2N-NaOH solution and then...

3/3,AB,K/8 (Item 8 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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00291959
ORDER fax of complete patent from Dialog SourceOne. See HELP ORDER 348
Smectic liquid crystal compound.
Smektische Flussigkristallverbindung.
Compose cristal liquide smectique.
PATENT ASSIGNEE:
Chisso Corporation, (201680), 6-32, Nakanoshima 3-chome Kita-ku, Osaka-shi Osaka-fu, (JP), (applicant designated states: AT;BE;CH;DE;FR;GB;IT;LI;LU;NL;SE)
INVENTOR:
Saito, Shinichi, 8890, Goi, Ichiharashi Chibaken, (JP)
Kitano, Kisei, 8890, Goi, Ichiharashi Chibaken, (JP)
Miyazawa, Kazutoshi, 17, Tatsumidai-higashi 2-chome, Ichiharashi Chibaken , (JP)
Ohno, Kouji, 27-2, Tatsumidai-higashi 3-chome, Ichiharashi Chibaken, (JP)
Inoue, Hiromichi, 8890, Goi, Ichiharashi Chibaken, (JP)
Ushioda, Makoto, 27-2, Tatsumidai-higashi 3-chome, Ichiharashi Chibaken, (JP)
LEGAL REPRESENTATIVE:
Hansen, Bernd, Dr.rer.nat. et al (4922), Hoffmann, Eitle & Partner Patentanwalte Arabellastrasse 4 Postfach 81 04 20, W-8000 Munchen 81, (DE)
PATENT (CC, No, Kind, Date): EP 293764 A2 881207 (Basic)
EP 293764 A3 891129
EP 293764 B1 920729
APPLICATION (CC, No, Date): EP 88108417 880526;
PRIORITY (CC, No, Date): JP 87137884 870601
DESIGNATED STATES: AT; BE; CH; DE; FR; GB; IT; LI; LU; NL; SE
INTERNATIONAL PATENT CLASS: C09K-019/34; C07D-239/34;

ABSTRACT EP 293764 A2
A novel smectic C liquid crystal compound useful as a component of ferroelectric liquid crystal materials capable of effecting high-speed response is provided, which compound is a smectic liquid crystalline 5-alkoxy-2-(4-alkylphenyl)pyrimidine compound expressed by the formula (see image in original document) wherein R(sup 1) represents a linear alkyl group of 4 to 20 carbon atoms and R(sup 2) represents a linear alkyl group of 7 to 20 carbon atoms.
ABSTRACT WORD COUNT: 73

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:
Available Text Language Update Word Count
CLAIMS B (English) EPBBF1 215
CLAIMS B (German) EPBBF1 183
CLAIMS B (French) EPBBF1 225
SPEC B (English) EPBBF1 2576
Total word count - document A 0
Total word count - document B 3199
Total word count - documents A + B 3199

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...SPECIFICATION it has been considered that the presence of Sc phase in the compound having the %core% structure of the formula (I) might not be %expected%.
Whereas, during extensive research made by the present inventors on Sc phase liquid crystals having...

...liters)), water (15.5 m(liters)), 5% Pd-activated carbon (5.7 g) and triethylamine (%61%.3 g, 0.606 mol), followed by agitating the %mixture% at about 40(degree)C in hydrogen current, filtering off the Pd-activated carbon, adding...

3/3,AB,K/9 (Item 1 from file: 653)
DIALOG(R)File 653:US Patents Fulltext
(c) format only 1998 The Dialog Corp. All rts. reserv.

01825064
Utility
PHARMACEUTICAL PREPARATIONS
[CATIONIC TENSIDES; THIADIAZOLIUM SALTS]

PATENT NO.: 4,882,435
ISSUED: November 21, 1989 (19891121)
INVENTOR(s): Paradies, Heinrich H., Iserlohn, DE (Germany)
ASSIGNEE(s): Medice Chem -Pharm Fabrik, (A Non-U.S. Company or Corporation), DE (Germany)
[Assignee Code(s): 21636]
EXTRA INFO: Expired, effective November 26, 1997 (19971126), recorded in O.G. of March 2, 1998 (19980302)
APPL. NO.: 7-321,436
FILED: March 09, 1989 (19890309)

This is a division of application Ser. No. 082,891, filed 8-6-87.

FULL TEXT: 2845 lines
ABSTRACT

The synthesis of quaternary five membered N-n-alkyl-heterocycles, especially of 4-hydroxy-N(1)-n-alkyl-imidazolium, 2,5-substituted N(3)-n-alkyl-thiazolium and substituted N(2) pyrazolium salts are described. The N-surfactants obtained have a very small critical micelle concentration (CMC) of 10 sup -5 -10 sup -7 Mol/Liter, and are capable of forming micelles of different sizes and forms depending on the nature of the anions. The N-detergents can be used as pharmaceuticals.

... and antifungal, do not exhibit any polydispersity in the presence of inorganic anions or potentiating %mixtures% and in some cases themselves are microbial metabolism %products% (antimetabolites) which are not toxic for the host cell.

The formation of the salt-like...

... reversed. The yields can be increased by the choice of suitable solvents. Whereas for pyridine, %pyrimidine% and imidazole radicals symmetrical effects at the %core% play an important part in the case for example of pyrazine the electronic effect in...
... and antifungal effect, do not exhibit polydispersity in the presence of inorganic anions or potentiating %mixtures% and in some cases themselves are microbial metabolism %products% (antimetabolites) which are not toxic for the host cell.

The formation of the salt-like...

... reversed. By the choice of suitable solvents the yields can be increased. Whereas for pyridine, %pyrimidine% and imidazole radicals symmetrical effects at the %core% play an important part, in the case for example of pyrazine the electronic effect in...

3/3,AB,K/10 (Item 2 from file: 653)
DIALOG(R)File 653:US Patents Fulltext
(c) format only 1998 The Dialog Corp. All rts. reserv.

01820094
Utility
SUBSTITUTED PYRAZOLES
[CATIONIC SURFACTANTS]

PATENT NO.: 4,877,883
ISSUED: October 31, 1989 (19891031)
INVENTOR(s): Paradies, Henrich H., Iserlohn, DE (Germany)
ASSIGNEE(s): Medice chem -pharm Fabrik Putter GmbH & Co KG, (A Non-U.S. Company or Corporation), DE (Germany)
[Assignee Code(s): 20715]
EXTRA INFO: Expired, effective November 5, 1997 (19971105), recorded in O.G. of January 13, 1998 (19980113)

APPL. NO.: 7-82,891
FILED: August 06, 1987 (19870806)
PRIORITY: 3626700, DE (Germany), August 7, 1986 (19860807)

FULL TEXT: 2862 lines

ABSTRACT

The synthesis of quaternary five membered N-n-alkyl-heterocycles, especially of 4-hydroxy-N(1)-n-alkyl-imidazolium, 2,5-substituted N(3)-n-alkyl-thiazolium and substituted N(2) pyrazolium salts are described. The N-surfactants obtained have a very small critical micelle concentration (CMC) of 10 sup -5 -10 sup -7 Mol/Liter, and are capable of forming micelles of different sizes and forms depending on the nature of the anions. The N-detergents can be used as pharmaceuticals.

... and antifungal, do not exhibit any polydispersity in the presence of inorganic anions or potentiating %mixtures% and in some cases themselves are microbial metabolism %products% (antimetabolites) which are not toxic for the host cell.

The formation of the salt-like...reversed. The yields can be increased by the choice of suitable solvents. Whereas for pyridine, %pyrimidine% and imidazole radicals symmetrical effects at the %core% play an important part in the case for example of pyrazine the electronic effect in...
... and antifungal effect, do not exhibit polydispersity in the presence of inorganic anions or potentiating %mixtures% and in some cases themselves are microbial metabolism %products% (antimetabolites) which are not toxic for the host cell.

The formation of the salt-like... reversed. By the choice of suitable solvents the yields can be increased. Whereas for pyridine, %pyrimidine% and imidazole radicals symmetrical effects at the %core% play an important part, in the case for example of pyrazine the electronic effect in...

3/3,AB,K/11 (Item 3 from file: 653)
DIALOG(R)File 653:US Patents Fulltext

01816790
Utility
PHARMACEUTICAL PREPARATIONS
[CATIONIC TENSIDES IN MICELLES WITH HYDROPHOBIC PEPTIDES; DRUG DELIVERY]

PATENT NO.: 4,874,850
ISSUED: October 17, 1989 (19891017)
INVENTOR(s): Paradies, Henrich H., Iserlohn, DE (Germany)
ASSIGNEE(s): Medice Chem -Pharm Fabrik Putter GmbH & Co , (A Non-U.S. Company or Corporation), DE (Germany)
[Assignee Code(s): 20715]
EXTRA INFO: Expired, effective October 22, 1997 (19971022), recorded in O.G. of December 30, 1997 (19971230)
APPL. NO.: 7-83,463
FILED: August 06, 1987 (19870806)
PRIORITY: 3626700, DE (Germany), August 7, 1986 (19860807)

FULL TEXT: 4411 lines

ABSTRACT

A pharmaceutical preparation is disclosed which is made up of a micelle or a vesicle each consisting of a cationic tenside with a monovalent ion and a hydrophobic cyclic or linear peptide, dispersed in a solvent whose pH value lies between pH 7-pH 8, the critical micellization concentration (cmc) lying in the range of 1.0 . 10 sup -7 to 7.0 . 10 sup -5 mol/liter. The preparation disclosed have in particular the advantage that by the increasing of the hydrophobicity of the alkyl or aryl chain or the radical at the N sup + tenside both the membrane permeability is increased and furthermore the pharmaceutical active substance, in particular linear and cyclic tyrocidines (A-E), can be transferred actively into the cytosol. They thus act on the transcription level. In addition, linear and cyclic tyrocidines in particular have antiviral effects.

... of the formula [See structure in original document] 7-n-alkyl-imidazolium [4,5-d] %pyrimidine% of the formula [See structure in original document] 7-hexadecylimidazolium [4,5-d] %pyrimidine% of the formula [See structure in original document] 3-n-alkyl-5,6-substituted benzimidazolium... and antifungal, do not exhibit any polydispersity in the presence or inorganic anions or potentiating %mixtures% and in some cases themselves are microbial metabolism %products% (antimetabolites) which are not toxic for the host cell.

The formation of the salt-like...

... reversed. The yields can be increased by the choice of suitable solvents. Whereas for pyridine, %pyrimidine% and imidazole radicals symmetrical effects at the %core% play an important part in the case for example of pyrazine the electronic effect in...

3 3,AB,K 12 (Item 4 from file: 653)
DIALOG(R)File 653:US Patents Fulltext

01811679
Utility
IMIDOZOPYRIONIDINES AND THEIR USE IN PHARMACEUTICAL PREPARATIONS
[CATIONIC SURFACTANTS, SMALL CRITICAL MICELLE CONCENTRATIONS]

PATENT NO.: 4,870,174
ISSUED: September 26, 1989 (19890926)
INVENTOR(s): Paradies, Henrich H., Iserlohn, DE (Germany)
ASSIGNEE(s): Medice chem -pharm Fabrik, (A Non-U.S. Company or Corporation), DE (Germany)
[Assignee Code(s): 21636]
APPL. NO.: 7-83,476
FILED: August 06, 1987 (19870806)
PRIORITY: 3626700, DE (Germany), August 7, 1986 (19860807)

FULL TEXT: 2895 lines

ABSTRACT

The synthesis of 7-n-alkyl-imidazolium[4,5-d]-pyrimidines, 6-substituted-3n -alkyl-benzimidazolium- and 3n-alkyl-5,6-substituted-benzthiazolium salts are described. There N sup + -surfactants having a substituted heterocycle as a head group have distinguished small critical micelle concentrations (CMC) in the range of 10 sup -5 -10 sup -7 Mol/Liter. The size and shape of these micelles in watery solutions are determined by the nature of the anion. The N-surfactants can be used as pharmaceuticals as well as reporter groups in fluorescence studies including immunological assays.

... and antifungal, do not exhibit any polydispersity in the presence of inorganic anions or potentiating %mixtures% and in some cases themselves are microbial metabolism %products% (antimetabolites) which are not toxic for the host cell.

The formation of the salt-like...reversed. The yields can be increased by the choice of suitable solvents. Whereas for pyridine, %pyrimidine% and imidazole radicals symmetrical effects at the %core% play an important part in the case for example of pyrazine the electronic effect in...
... and antifungal effect, do not exhibit polydispersity in the presence of inorganic anions or potentiating %mixtures% and in some cases themselves are microbial metabolism %products% (antimetabolites) which are not toxic for the host cell.

The formation of the salt-like... reversed. By the choice of suitable solvents the yields can be increased. Whereas for pyridine, %pyrimidine% and imidazole radicals symmetrical effects at the %core% play an important part, in the case for example of pyrazine the electronic effect in...

3/3,AB,K/13 (Item 5 from file: 653)
DIALOG(R)File 653:US Patents Fulltext

01194964
Utility
8-PHENYL-PURINES AND PHARMACEUTICAL COMPOSITIONS CONTAINING SAME
[INOTROPIC ACTIVITY]

PATENT NO.: 4,299,834
ISSUED: November 10, 1981 (19811110)
INVENTOR(s): Austel, Volkhard, Biberach, DE (Germany)
Kutter, Eberhard, Biberach, DE (Germany)
Heider, Joachim, Warthausen, DE (Germany)
Diederen, Willi, Biberach, DE (Germany)
ASSIGNEE(s): Boehringer Ingelheim Gesellschaft mit beschrankter Haftung, (A Non-U.S. Company or Corporation), Ingelheim am Rhein, DE (Germany)
[Assignee Code(s): 10192]
APPL. NO.: 6-166,709
FILED: July 08, 1980 (19800708)
PRIORITY: 2927988, DE (Germany), July 11, 1979 (19790711)

FULL TEXT: 529 lines
ABSTRACT

This invention is directed to 8-phenyl-purines of general formula [See structure in original document] wherein R sub 1 is a hydrogen or halogen atom; an alkoxy group optionally substituted by alkylmercapto, alkylsulfinyl or alkylsulfonyl group; or an alkylmercapto, alkylsulfinyl or alkylsulfonyl group, whereby each alkyl moiety may contain from 1 to 3 carbon atoms, and
R sub 2 is an alkoxy group with from 1 to 3 carbon atoms, and their physiologically compatible acid addition salts. The compounds exhibit valuable pharmacological properties, particularly positive inotropic activity.

...pyrimidine was refluxed in 20 ml of phosphorus oxychloride for 2.5 hours. The reaction %mixture% was poured on ice, and the solid %product% formed was filtered off. The filtrate was made alkaline by means of sodium bicarbonate and

3/3,AB,K/14 (Item 6 from file: 653)
DIALOG(R)File 653:US Patents Fulltext

01131606
Utility
PENICILLINS AND SALTS THEREOF
[ANTIBIOTICS]

PATENT NO.: 4,241,056
ISSUED: December 23, 1980 (19801223)
INVENTOR(s): Wetzel, Bernd, Biberach an der Riss, DE (Germany)
Reuter, Wolfgang, Laupertshausen, DE (Germany)
Woitun, Eberhard, Biberach an der Riss, DE (Germany)
Maier, Roland, Biberach an der Riss, DE (Germany)
Lechner, Uwe, Ummendorf, DE (Germany)
Goeth, Hanns, Bierach an der Riss, DE (Germany)

Werner, Rolf, Bierach an der Riss, DE (Germany)
ASSIGNEE(s): Boehringer Ingelheim GmbH, (A Non-U.S. Company or Corporation), Ingelheim am Rhein, DE (Germany)
[Assignee Code(s): 10192]
APPL. NO.: 6-13,006
FILED: February 21, 1979 (19790221)
PRIORITY: 2808153, DE (Germany), February 25, 1978 (19780225)
2851226, DE (Germany), November 27, 1978 (19781127)
2851270, DE (Germany), November 27, 1978 (19781127)

FULL TEXT: 4733 lines

ABSTRACT

Compounds of the formula [See structure in original document] wherein A is phenyl; 4-hydroxy-phenyl; 2- or 3-thienyl; cyclohexyl; cyclohexen-1-yl; cyclohexa-1, 4-dien-1-yl; or 3,4-disubstituted phenyl, where the substituents may be identical to or different from each other and are selected from the group consisting of chlorine, hydroxyl or methoxy; and R is an aliphatic, cycloaliphatic; aromatic or heterocyclic group of diverse types;

and non-toxic, pharmacologically acceptable salts thereof formed with inorganic or organic bases. The compounds as well as their salts are useful as antibiotics.

...4 hours to 140 degree(s) C. in 50 ml of propionic acid anhydride. The %mixture% is cooled and the precipitated %product% is extracted and washed with ether. The compound is suspended in 200 ml of dimethyl...

3/3,AB,K/15 (Item 1 from file: 103)
DIALOG(R)File 103:Energy SciTec
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04068756 EDB-96-152516
Title: Structure-based library approach to kinase inhibitors
Author(s): Norman, T.C.; Gray, N.S.; Koh, J.T.; Schultz, P.G. (Univ. of California, Berkeley, CA (United States))
Source: Journal of the American Chemical Society v 118:31.. Coden: JACSAT
ISSN: 0002-7863
Publication Date: 7 Aug 1996 p 7430-7431
Contract Number (DOE): AC03-76SF00098
Contract Number (Non-DOE): CHE-9301146
Language: English
Abstract: While purine analogs were being screened for inhibition of various protein kinases, a relatively selective inhibitor, olomoucine, was identified that competitively inhibits CDK2/cyclin A with an IC[sub 50] of 7 [mu]M. A comparison of the CDK2 crystal structures containing bound ATP and bound olomoucine confirms that olomoucine binds in the adenine binding pocket of CDK2, but its purine nucleus adopts an entirely different orientation than that observed for ATP. In spite of the good shape complementarity shown by the olomoucine-CDK2 complex, structural variations at C-6, C-2, and N-9 might be expected to lead to enhanced affinity and selectivity for CDK2. The coupling of this structural information with combinatorial methods is an obvious strategy for optimizing olomoucine's potency. Herein we apply this approach to the solid-phase %synthesis% and screening of combinatorial %libraries% based on the %purine% %scaffold% found in olomoucine. The iteration of %library% %synthesis% with structural analysis of the optimized leads should provide an effective strategy for the development of more potent and selective inhibitors of CDK2. In addition, libraries containing purine derivatives may prove useful in the search for inhibitors of a large number of cellular processes. 24 refs., 1 fig.

...Abstract: strategy for optimizing olomoucine's potency. Herein we apply this approach to the solid-phase %synthesis% and screening of combinatorial %libraries% based on the %purine% %scaffold% found in olomoucine. The iteration of %library% %synthesis% with structural analysis of the optimized leads should provide an effective strategy for the development...

3/3,AB,K/16 (Item 1 from file: 144)
DIALOG(R)File 144:Pascal
(c) 1998 INIST/CNRS. All rts. reserv.

13264671 PASCAL No.: 97-0537513
Axial chiral allenylacetates as novel ferroelectric liquid crystals
LUNKWITZ R; TSCHIERSKE C; LANGHOFF A; GIESSELMANN F; ZUGENMAIER P
Institute of Organic Chemistry, Martin-Luther-University Halle, Kurt-Mothes-Str. 2, 06120 Halle, Germany; Institute of Physical Chemistry, TU Clausthal, Arnold Sommerfeld-Str. 4, 38678 Clausthal-Zellerfeld, Germany
Journal: Journal of materials chemistry, 1997, 7 (9) 1713-1721
Language: English
Liquid crystalline alkane-3,4-dienoates (allenylacetates) have been synthesized. Most compounds incorporate a heterocyclic 1,3,4-thiadiazole ring or a %pyrimidine% ring as a constituent of the rigid %core%. These axial chiral allene derivatives were at first obtained as racemic %mixtures°o. Some of them were also °osynthesized°o in enantiomerically enriched form by enantioselective synthesis. The compounds were investigated by polarizing microscopy and by differential scanning calorimetry. The three-ring compounds exhibit broad regions of smectic C-phases. The optically active three-ring compounds show broad S SUB c *-phases with moderate values of spontaneous polarization.

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... have been synthesized. Most compounds incorporate a heterocyclic 1,3,4-thiadiazole ring or a %pyrimidine% ring as a constituent of the rigid %core%. These axial chiral allene derivatives were at first obtained as racemic °amixtures%. Some of them were also %synthesized% in enantiomerically enriched form by enantioselective synthesis. The compounds were investigated by polarizing microscopy and...

3/3,AB,K/17 (Item 1 from file: 149)
DIALOG(R)File 149:IAC(SM)Health&Wellness DB(SM)
(c) 1998 Info Access Co. All rts. reserv.

01101313 SUPPLIER NUMBER: 04518268 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Saturation mutagenesis of the yeast his3 regulatory site: requirements for transcriptional induction and for binding by GCN4 activator protein.
Hill, David E.; Hope, Ian A.; Macke, Jennifer P.; Struhl, Kevin
Science, v234, p451(7)
Oct 24, 1986
PUBLICATION FORMAT: Magazine/Journal ISSN: 0036-8075 LANGUAGE: English
RECORD TYPE: Fulltext TARGET AUDIENCE: Academic
WORD COUNT: 4627 LINE COUNT: 00511

... i) We decided to saturate the conserved TGACTC sequence with single base changes. Six oligonucleotide %mixtures% were %synthesized%, each containing the three sequences corresponding to all possible mutations of one of the TGACTC...

...base within this region was mutated at a rate of 10 percent by programming the %synthesis% raction with four %mixtures%, each composed of one major (90 percent) nucleotide precursor and equal amounts of the three ...core on both sides show considerable sequence conservation (Fig. 5). The two nucleotides before the %core% arc usually %purines% (13 out of 16 cases for each position), and an A residue immediately precedes the...nucleotide precursor at one predetermined position in the TGACTC core was replaced by an equimolar %mixture% of the three "mutant' precursors. Thus, each DNA %synthesis% yields a %mixture% of three oligonucleotides that represent all three point mutations at a specific position within the...and 3.3 percent of the other three bases. Shown below is the mutually primed %synthesis% procedure (33) used to convert the oligonucleotide %mixture% to the double-stranded form suitable for cloning. The large, boldfaced residues indicate specific base...
? ds

Set Items Description
S1 19 (PURINE? ? OR PYRIMIDINE? ?)(8N) (SCAFFOLD? ? OR CORE? ?) - AND(SYNTHESI????? OR PRODUC?????)(10N) (MIXTURE? ? OR LIBRAR?-
??? OR MIX)
S2 18 RD (unique items)
S3 17 S2 NOT PY>1997
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File 348:EUROPEAN PATENTS 1978-1998/Apr W17
(c) 1998 EUROPEAN PATENT OFFICE
File 653:US Patents Fulltext 1980-1989
(c) format only 1998 The Dialog Corp.
File 103:Energy SciTec 1974-1998/Apr B2
(c) 1998 Contains copyrighted material
File 144:Pascal 1973-1998/Apr
(c) 1998 INIST/CNRS
File 434:Scisearch(R) Cited Ref Sci 1974-1998/Apr W3
(c) 1998 Inst for Sci Info
File 149:IAC(SM)Health&Wellness DB(SM) 1976-1998/Apr W4
(c) 1998 Info Access Co
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30apr98 19:58:10 User233832 Session D95.7
$1.35 0.015 Hrs File348
$1.50 1 Type(s) in Format 3 (UDF)
$35.00 7 Type(s) in Format 5 (UDF)
$36.50 8 Types
$37.85 Estimated cost File348
$3.60 0.030 Hrs File653
$7.50 6 Type(s) in Format 4 (UDF)
$7.50 6 Types
$11.10 Estimated cost File653
$0.24 0.004 Hrs File103
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$1.77 Estimated cost File144
$0.36 0.004 Hrs File434
$0.36 Estimated cost File434
$1.20 0.020 Hrs File149
$2.00 1 Type(s) in Format 3 (UDF)
$2.00 1 Types
$3.20 Estimated cost File149
OneSearch, 6 files, 0.083 Hrs FileOS
$55.87 Estimated cost this search
$72.57 Estimated total session cost 0.398 Hrs.

File 654:US PAT.FULL. 1990-1998/Apr 21
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Reexamination, extension, expiration, reinstatement updated weekly.

Set Items Description
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ser;HighlightOn=**;HighlightOff=**;
Copying 01181...Open

PLEASE ENTER HOST PORT ID:
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LOGINID:d180JXR
PASSWORD:
TERMINAL (ENTER 1, 2, 3, 4, OR ?): 3

FILE 'USPAT' ENTERED AT 18:33:34 ON 22 APR 1998

=> s combinatorial (p) (purin###### or pyrimid#####)

3324 COMBINATORIAL
7001 PURIN######
22520 PYRIMID#####
L1 3 COMBINATORIAL (P) (PURIN###### OR PYRIMID#####)

=> d 1-3 cit ab fd hit

1. 5,698,685, Dec. 16, 1997, Morpholino-subunit combinatorial library and method; James E. Summerton, et al., 536/24.3; 435/6 [IMAGE AVAILABLE]

US PAT NO: 5,698,685 [IMAGE AVAILABLE] L1: 1 of 3

ABSTRACT:
A method of generating a compound capable of interacting specifically with a selected macromolecular ligand is disclosed. The method involves contacting the ligand with a combinatorial library of oligomers composed of morpholino subunits with a variety of nucleobase and non-nucleobase side chains. Oligomer molecules that bind specifically to the receptor are isolated and their sequence of base moieties is determined. Also disclosed is a combinatorial library of oligomers useful in the method and novel morpholino-subunit polymer compositions.
DATE FILED: Mar. 31, 1995

SUMMARY:

BSUM(45)

The invention includes, in one aspect, a **combinatorial** library of non-biological oligomers formed predominantly of morpholino subunit structures of the form: ##STR1## where (i) the structures are linked together by linkages "L" one to four atoms long joining the morpholino nitrogen of one subunit structure to the 4' cyclic carbon of an adjacent subunit structure, and X.sub.i is a **purine** or **pyrimidine** side chains X.sub.i are variable, and u... library includes at least about 1,000 different side chain sequence oligomers.

CLAIMS:

CLMS(1)

It is claimed:

1. A method of generating a compound capable of interacting specifically with a selected receptor, comprising
(a) contacting the receptor with a **combinatorial** library of oligomers, each formed of at least four morpholino subunits of the form: ##STR4## in which (i) morpholino subunits are linked together by oligomer linkages L one to four atoms long joining the morpholino nitrogen of one subunit to the 4' cyclic carbon of an adjacent subunit, (ii) X.sub.i is a side chain in subunit i in each oligomer of the library, (iii) the different oligomers in the library have different sequences of side chains in at least three subunit positions, (iv) X.sub.i is selected from the group consisting of **purines**, **pyrimidines**, non-nucleobase aromatic side chains, aliphatic side chains, and mixed aromatic/aliphatic side chains, and (v) said library contains at least 1,000 different side chain sequence oligomers,
(b) isolating oligomer molecules that bind specifically to the receptor, and
(c) determining the sequence of oligomer side chains in the isolated oligomer molecules.

2. 5,646,285, Jul. 8, 1997, Combinatorial non-peptide libraries; Nand Baindur, et al., 546/298; 548/556 [IMAGE AVAILABLE]

US PAT NO: 5,646,285 [IMAGE AVAILABLE] L1: 2 of 3

ABSTRACT:
The present invention relates to an orthogonally-protected compound of the formula: ##STR1## wherein PG.sub.1 is a first protecting group that is unreactive to a chemistry used at another position within the compound, and that is capable of selective removal without affecting PG.sub.2 or linkage to a solid support; PG.sub.2 is a second protecting group that is unreactive to a chemistry used at another position within the compound, and that is capable of selective removal without affecting PG.sub.1 or linkage to a solid support; Y is CH.sub.2 COOH, CH.sub.2 SO.sub.2 OH, CH.sub.2 PO.sub.2 ROH, CH.sub.2 Ph--COOH, CH.sub.2 Ph--SO.sub.2 OH, or CH.sub.2 Ph--PO.sub.2 ROH; R is H or a substituted or unsubstituted alkyl, cycloalkyl, aryl, arylalkyl, heteroaryl, or heteroarylalkyl; and n is 1 or 2. PG.sub.1 is preferably a carbamate group, a trityl group, or a trifluoroacetyl group; and PG.sub.2 is preferably an ester.
DATE FILED: Jun. 7, 1995

DETDESC:

DETD(21)

Other "biorecognition elements" may also be advantageously used to create diverse peptidomimetic libraries using the scaffold approach. For instance, nature uses two other building blocks, e.g., carbohydrates and nucleotides, as oligomeric molecular recognition elements. Libraries of carbohydrates may be an important source of molecular diversity, since, in principle, oligosaccharides are capable of generating much greater diversity than peptides and nucleotides. Oligonucleotides also represent a feasible approach to creating diverse libraries of compounds. In addition to translating such oligonucleotides to peptides, such libraries also can be used to develop antisense leads or to identify oligonucleotides that interact agonistically or antagonistically with proteins. With oligonucleotides, sugar-phosphate bonds serve as a "scaffold" on which **purine** and **pyrimidine** bases are arranged in a sequence and in a topologically defined fashion. Non-nucleotide oligomers that can present **purine** and **pyrimidine** bases on an alternative backbone, such as peptide-nucleic acids (PNAS) or other appropriate scaffolds, therefore represent another approach to peptidomimetic drug design through **combinatorial** chemistry. Moreover, drug design that is based on interactions with specific genomic elements will become a more fertile area for study as sequencing of the human genome proceeds and numerous therapeutic targets (both genomic and gene products) become available.

3. 5,506,337, Apr. 9, 1996, Morpholino-subunit combinatorial library and method; James E. Summerton, et al., 528/391, 398, 399, 403, 405, 406, 422, 423, 425 [IMAGE AVAILABLE]

US PAT NO: 5,506,337 [IMAGE AVAILABLE] L1: 3 of 3

ABSTRACT:
A method of generating a compound capable of interacting specifically with a selected macromolecular ligand is disclosed. The method involves contacting the ligand with a combinatorial library of oligomers composed of morpholino subunits with a variety of nucleobase and non-nucleobase side chains. Oligomer molecules that bind specifically to the receptor are isolated and their sequence of base moieties is determined. Also disclosed is a combinatorial library of oligomers useful in the method and novel morpholino-subunit polymer compositions.
DATE FILED: May 11, 1994

SUMMARY:

BSUM(45)

The invention includes, in one aspect, a **combinatorial** library of non-biological oligomers formed predominantly of morpholino subunit structures of the form: ##STR1## where (i) the structures are linked together by linkages "L" one to four atoms long joining the morpholino nitrogen of one subunit structure to the 4' cyclic carbon of an adjacent subunit structure, and X.sub.i is a **purine** or **pyrimidine** side

chain, a non-nucleobase aromatic side chain, an aliphatic side chain, and/or a mixed aromatic/aliphatic side chain. At least 3 of the side chains X.sub.i are variable, and the library includes at least about 1,000 different side chain sequence oligomers.

CLAIMS:

CLMS(1)

It is claimed:

1. A **combinatorial** library of oligomers, each formed of at least four linked morpholino subunits of the form: ##STR4## in which (i) morpholino subunit structures are linked together by linkages L one to four atoms long joining the morpholino nitrogen of one subunit to the 4' cyclic carbon of an adjacent subunit, (ii) X.sub.i is a side chain in subunit i in each oligomer of the library, (iii) the different oligomers in the library have different sequences of side chains in at least three subunit positions, (iv) X.sub.i is selected from the group consisting of **purines**, **pyrimidines**, non-nucleobase aromatic side chains, aliphatic side chains, and mixed aromatic/aliphatic moieties, and (v) said library contains at least 1,000 different side chain sequence oligomers.

=> d 1-3 cit ab fd hit 2,3

1. 5,698,685, Dec. 16, 1997, Morpholino-subunit combinatorial library and method; James E. Summerton, et al., 536/24.3; 435/6 [IMAGE AVAILABLE]

US PAT NO: 5,698,685 [IMAGE AVAILABLE] L1: 1 of 3

ABSTRACT:
A method of generating a compound capable of interacting specifically with a selected macromolecular ligand is disclosed. The method involves contacting the ligand with a combinatorial library of oligomers composed of morpholino subunits with a variety of nucleobase and non-nucleobase side chains. Oligomer molecules that bind specifically to the receptor are isolated and their sequence of base moieties is determined. Also disclosed is a combinatorial library of oligomers useful in the method and novel morpholino-subunit polymer compositions.
DATE FILED: Mar. 31, 1995

SUMMARY:

BSUM(45)

The invention includes, in one aspect, a **combinatorial** library of non-biological oligomers formed predominantly of morpholino subunit structures of the form: ##STR1## where (i) the structures are linked together by linkages "L" one to four atoms long joining the morpholino nitrogen of one subunit structure to the 4' cyclic carbon of an adjacent subunit structure, and X.sub.i is a **purine** or **pyrimidine** side chain, a non-nucleobase aromatic side chain, an aliphatic side chain, and/or a mixed aromatic/aliphatic side chain. At least 3 of the side chains X.sub.i are variable, and the library includes at least about 1,000 different side chain sequence oligomers.

CLAIMS:

CLMS(1)

It is claimed:

1. A method of generating a compound capable of interacting specifically with a selected receptor, comprising
(a) contacting the receptor with a **combinatorial** library of oligomers, each formed of at least four morpholino subunits of the form: ##STR4## in which (i) morpholino subunits are linked together by oligomer linkages L one to four atoms long joining the morpholino nitrogen of one subunit to the 4' cyclic carbon of an adjacent subunit, (ii) X.sub.i is a side chain in subunit i in each oligomer of the library, (iii) the different oligomers in the library have different sequences of side chains in at least three subunit positions, (iv) X.sub.i is selected from the group consisting of **purines**, **pyrimidines**, non-nucleobase aromatic side chains, aliphatic side chains, and mixed aromatic/aliphatic side chains, and (v) said library contains at least 1,000 different side chain sequence oligomers,
(b) isolating oligomer molecules that bind specifically to the receptor, and
(c) determining the sequence of oligomer side chains in the isolated oligomer molecules.

2. 5,646,285, Jul. 8, 1997, Combinatorial non-peptide libraries; Nand Baindur, et al., 546/298; 548/556 [IMAGE AVAILABLE]

US PAT NO: 5,646,285 [IMAGE AVAILABLE] L1: 2 of 3

ABSTRACT:
The present invention relates to an orthogonally-protected compound of the formula: ##STR1## wherein PG.sub.1 is a first protecting group that is unreactive to a chemistry used at another position within the compound, and that is capable of selective removal without affecting PG.sub.2 or linkage to a solid support; PG.sub.2 is a second protecting group that is unreactive to a chemistry used at another position within the compound, and that is capable of selective removal without affecting PG.sub.1 or linkage to a solid support; Y is CH.sub.2 COOH, CH.sub.2 SO.sub.2 OH, CH.sub.2 PO.sub.2 ROH, CH.sub.2 Ph--COOH, CH.sub.2 Ph--SO.sub.2 OH, or CH.sub.2 Ph--PO.sub.2 ROH; R is H or a substituted or unsubstituted alkyl, cycloalkyl, aryl, arylalkyl, heteroaryl, or heteroarylalkyl; and n is 1 or 2. PG.sub.1 is preferably a carbamate group, a trityl group, or a trifluoroacetyl group; and PG.sub.2 is preferably an ester.
DATE FILED: Jun. 7, 1995

DETDESC:

DETD(21)

Other "biorecognition elements" may also be advantageously used to create diverse peptidomimetic libraries using the scaffold approach. For instance, nature uses two other building blocks, e.g., carbohydrates and nucleotides, as oligomeric molecular recognition elements. Libraries of carbohydrates may be an important source of molecular diversity, since, in principle, oligosaccharides are capable of generating much greater diversity than peptides and nucleotides. Oligonucleotides also represent a feasible approach to creating diverse libraries of compounds. In addition to translating such oligonucleotides to peptides, such libraries also can be used to develop antisense leads or to identify oligonucleotides that interact agonistically or antagonistically with proteins. With oligonucleotides, sugar-phosphate bonds serve as a "scaffold" on which **purine** and **pyrimidine** bases are arranged in a sequence and in a topologically defined fashion. Non-nucleotide oligomers that can present **purine** and **pyrimidine** bases on an alternative backbone, such as peptide-nucleic acids (PNAS) or other appropriate scaffolds, therefore represent another approach to peptidomimetic drug design through **combinatorial** chemistry. Moreover, drug design that is based on interactions with specific genomic elements will become a more fertile area for study as sequencing of the human genome proceeds and numerous therapeutic targets (both genomic and gene products) become available.

3. 5,506,337, Apr. 9, 1996, Morpholino-subunit combinatorial library and method; James E. Summerton, et al., 528/391, 398, 399, 403, 405, 406, 422, 423, 425 [IMAGE AVAILABLE]

US PAT NO: 5,506,337 [IMAGE AVAILABLE] L1: 3 of 3

ABSTRACT:
A method of generating a compound capable of interacting specifically with a selected macromolecular ligand is disclosed. The method involves contacting the ligand with a combinatorial library of oligomers composed of morpholino subunits with a variety of nucleobase and non-nucleobase side chains. Oligomer molecules that bind specifically to the receptor are isolated and their sequence of base moieties is determined. Also disclosed is a combinatorial library of oligomers useful in the method and novel morpholino-subunit polymer compositions.
DATE FILED: May 11, 1994

SUMMARY:

BSUM(45)

The invention includes, in one aspect, a **combinatorial** library of non-biological oligomers formed predominantly of morpholino subunit structures of the form: ##STR1## where (i) the structures are linked together by linkages "L" one to four atoms long joining the morpholino nitrogen of one subunit structure to the 4' cyclic carbon of an adjacent subunit structure, and X.sub.i is a **purine** or **pyrimidine** side chain, a non-nucleobase aromatic side chain, an aliphatic side chain, and/or a mixed aromatic/aliphatic side chain. At least 3 of the side chains X.sub.i are variable, and the library includes at least about 1,000 different side chain sequence oligomers.

CLAIMS:

CLMS(1)

It is claimed:

1. A **combinatorial** library of oligomers, each formed of at least four linked morpholino subunits of the form: ##STR4## in which (i) morpholino subunit structures are linked together by linkages L one to four atoms long joining the morpholino nitrogen of one subunit to the 4' cyclic carbon of an adjacent subunit, (ii) X.sub.i is a side chain in subunit i in each oligomer of the library, (iii) the different oligomers in the library have different sequences of side chains in at least three subunit positions, (iv) X.sub.i is selected from the group consisting of **purines**, **pyrimidines**, non-nucleobase aromatic side chains, aliphatic side chains, and mixed aromatic/aliphatic moieties, and (v) said library contains at least 1,000 different side chain sequence oligomers.

2. 5,646,285, Jul. 8, 1997, Combinatorial non-peptide libraries; Nand Baindur, et al., 546/298; 548/556 [IMAGE AVAILABLE]

US PAT NO: 5,646,285 [IMAGE AVAILABLE] L1: 2 of 3

ABSTRACT:
The present invention relates to an orthogonally-protected compound of the formula: ##STR1## wherein PG.sub.1 is a first protecting group that is unreactive to a chemistry used at another position within the compound, and that is capable of selective removal without affecting PG.sub.2 or linkage to a solid support; PG.sub.2 is a second protecting group that is unreactive to a chemistry used at another position within the compound, and that is capable of selective removal without affecting PG.sub.1 or linkage to a solid support; Y is CH.sub.2 COOH, CH.sub.2 SO.sub.2 OH, CH.sub.2 PO.sub.2 ROH, CH.sub.2 Ph--COOH, CH.sub.2 Ph--SO.sub.2 OH, or CH.sub.2 Ph--PO.sub.2 ROH; R is H or a substituted or unsubstituted alkyl, cycloalkyl, aryl, arylalkyl, heteroaryl, or heteroarylalkyl; and n is 1 or 2. PG.sub.1 is preferably a carbamate group, a trityl group, or a trifluoroacetyl group; and PG.sub.2 is preferably an ester.
DATE FILED: Jun. 7, 1995

DETDESC:

DETD(21)

Other "biorecognition elements" may also be advantageously used to create diverse peptidomimetic libraries using the scaffold approach. For instance, nature uses two other building blocks, e.g., carbohydrates and nucleotides, as oligomeric molecular recognition elements. Libraries of carbohydrates may be an important source of molecular diversity, since, in principle, oligosaccharides are capable of generating much greater diversity than peptides and nucleotides. Oligonucleotides also represent a feasible approach to creating diverse libraries of compounds. In addition to translating such oligonucleotides to peptides, such libraries also can be used to develop antisense leads or to identify oligonucleotides that interact agonistically or antagonistically with proteins. With oligonucleotides, sugar-phosphate bonds serve as a "scaffold" on which **purine** and **pyrimidine** bases are arranged in a sequence and in a topologically defined fashion. Non-nucleotide oligomers that can present **purine** and **pyrimidine** bases on an alternative backbone, such as peptide-nucleic acids (PNAS) or other appropriate scaffolds, therefore represent another approach to peptidomimetic drug design through **combinatorial** chemistry. Moreover, drug design that is based on interactions with specific genomic elements will become a more fertile area for study as sequencing of the human genome proceeds and numerous therapeutic targets (both genomic and gene products) become available.

3. 5,506,337, Apr. 9, 1996, Morpholino-subunit combinatorial library and method; James E. Summerton, et al., 528/391, 398, 399, 403, 405, 406, 422, 423, 425 [IMAGE AVAILABLE]

US PAT NO: 5,506,337 [IMAGE AVAILABLE] L1: 3 of 3

ABSTRACT:
A method of generating a compound capable of interacting specifically with a selected macromolecular ligand is disclosed. The method involves contacting the ligand with a combinatorial library of oligomers composed of morpholino subunits with a variety of nucleobase and non-nucleobase side chains. Oligomer molecules that bind specifically to the receptor are isolated and their sequence of base moieties is determined. Also disclosed is a combinatorial library of oligomers useful in the method and novel morpholino-subunit polymer compositions.
DATE FILED: May 11, 1994

SUMMARY:

BSUM(45)

The invention includes, in one aspect, a **combinatorial** library of non-biological oligomers formed predominantly of morpholino subunit structures of the form: ##STR1## where (i) the structures are linked together by linkages "L" one to four atoms long joining the morpholino nitrogen of one subunit structure to the 4' cyclic carbon of an adjacent subunit structure, and X.sub.i is a **purine** or **pyrimidine** side chain, a non-nucleobase aromatic side chain, an aliphatic side chain, and/or a mixed aromatic/aliphatic side chain. At least 3 of the side chains X.sub.i are variable, and the library includes at least about 1,000 different side chain sequence oligomers.

CLAIMS:

CLMS(1)

It is claimed:

1. A **combinatorial** library of oligomers, each formed of at least four linked morpholino subunits of the form: ##STR4## in which (i) morpholino subunit structures are linked together by linkages L one to four atoms long joining the morpholino nitrogen of one subunit to the 4' cyclic carbon of an adjacent subunit, (ii) X.sub.i is a side chain in subunit i in each oligomer of the library, (iii) the different oligomers in the library have different sequences of side chains in at least three subunit positions, (iv) X.sub.i is selected from the group consisting of **purines**, **pyrimidines**, non-nucleobase aromatic side chains, aliphatic side chains, and mixed aromatic/aliphatic moieties, and (v) said library contains at least 1,000 different side chain sequence oligomers.

=> s (mixt##### or mix) (p) (purin###### or pyrimid#####)

567748 MIXT#####
100830 MIX
7001 PURIN######
22520 PYRIMID#####
L2 5625 (MIXT##### OR MIX) (P) (PURIN###### OR PYRIMID#####)

=> s (mixt##### or mix) (p) (purin###### or pyrimid#####) (p) synthes####

567748 MIXT#####
100830 MIX
7001 PURIN######
22520 PYRIMID#####
157494 SYNTHES####
L3 186 (MIXT##### OR MIX) (P) (PURIN###### OR PYRIMID#####) (P) SYNTH
ES####

=> d kwic

US PAT NO: 5,741,705 [IMAGE AVAILABLE] L3: 1 of 186

SUMMARY:

BSUM(5)

Existing media for eucaryotic cells (culture media) in general comprise **mixtures** of amino acids, vita.. .s, carbohydrates and minerals. Culture media contain relatively large amounts of the amino acid L-glutamine. Typically L-glutamine. . . energy source in proliferating eucaryotic cells and it also serves as both a carbon and a nitrogen source, especially for **purine** and **pyrimidine** **synthesis**.

=> s l3 (p) (cell# or culture# or media#)

243205 CELL#
50227 CULTURE#
158576 MEDIA#
L4 21 L3 (P) (CELL# OR CULTURE# OR MEDIA#)

=> s l3 not l4

L5 165 L3 NOT L4

=> d 1-5

1. 5,739,290, Apr. 14, 1998, Monoclonal antibody against an interferon-induced human protein in pure form; Michel Andre Horisberger, et al., 530/388.2; 435/69.1, 172.2, 331; 530/388.1, 391.1; 935/89 [IMAGE AVAILABLE]

2. 5,736,548, Apr. 7, 1998, 6-aryl pyrazolo[3,4-D] pyrimidin-4-ones and compositions and method of use thereof; Edward R. Bacon, et al., 514/258, 212, 234.5; 540/600; 544/58.6, 118, 262 [IMAGE AVAILABLE]

3. 5,733,932, Mar. 31, 1998, Compounds and methods of use to derivatize neighboring lysine residues in proteins under physiological conditions; Michael I. Bukrinsky, et al., 514/634, 635; 564/234, 238 [IMAGE AVAILABLE]

4. 5,731,314, Mar. 24, 1998, Pharamceutical compositions for prevention and treatment of tourette's syndrome; Merouane Bencherif, et al., 514/256, 277, 344, 357 [IMAGE AVAILABLE]

5. 5,728,525, Mar. 17, 1998, Fluorescent universal nucleic acid end label; Michael J. Conrad, 435/6, 91.1; 536/23.1, 24.3, 24.33, 25.3 [IMAGE AVAILABLE]

=> d 2, 4 cit fd kwic

2. 5,736,548, Apr. 7, 1998, 6-aryl pyrazolo[3,4-D] pyrimidin-4-ones and compositions and method of use thereof; Edward R. Bacon, et al., 514/258, 212, 234.5; 540/600; 544/58.6, 118, 262 [IMAGE AVAILABLE]

US PAT NO: 5,736,548 [IMAGE AVAILABLE] L5: 2 of 165
DATE FILED: Jan. 22, 1997

SUMMARY:

BSUM(63)

The compounds of the formula I can also be **synthesized** as shown in Scheme B: ##STR14## A suitably substituted 5-amino-1H-pyrazole-4-carboxamide of the formula II is treated with an excess of. . . to the boiling point of the solvent used, to afford either the compounds of the formula I directly, or a **mixture** of the compounds of the formula I and the pyrazolo[3,4-d]**pyrimidin**-4-amines of the formula VI. This **mixture** can in turn be treated with an excess of sodium nitrite, in a 1/1 water/acid **mixture**, preferably a 1/1 water/sulfuric acid **mixture**, at a temperature in the range of about -10.degree. C. up to about room temperature to afford the compounds of. . .

4. 5,731,314, Mar. 24, 1998, Pharamceutical compositions for prevention and treatment of tourette's syndrome; Merouane Bencherif, et al., 514/256, 277, 344, 357 [IMAGE AVAILABLE]

US PAT NO: 5,731,314 [IMAGE AVAILABLE] L5: 4 of 165
DATE FILED: Jan. 6, 1995

SUMMARY:

BSUM(23)

The. . . Soc., Perkin Trans. 1, Vol. 2, pp. 579-585 (1980). The requisite precursors for such compounds, 6-substituted nicotine-type compounds, can be **synthesized** from 6-substituted nicotinic acid esters using the general methods disclosed by Rondahl, Acta Pharm. Suec., Vol. 14, pp 113-118 (1977).. . . In particular, certain metanicotine-type compounds can be prepared by subjecting a 3-halo substituted, 5-substituted pyridine compound or a 5-halo substituted **pyrimidine** compound to a palladium catalyzed coupling reaction using an olefin possessing a protected amine functionality (e.g., such an olefin provided. . . metanicotine-type compound. There are a number of different methods for providing (Z)-metanicotine-type compounds. In one method, (Z)-metanicotine-type compounds can be **synthesized** from nicotine-type compounds as a **mixture** of E and Z isomers; and the (Z)-metanicotine-type compounds can then be separated by chromatography using the types of techniques. . .

=> d his

(FILE 'USPAT' ENTERED AT 18:33:34 ON 22 APR 1998)
L1 3 S COMBINATORIAL (P) (PURIN###### OR PYRIMID#####)
L2 5625 S (MIXT##### OR MIX) (P) (PURIN###### OR PYRIMID#####)
L3 186 S (MIXT##### OR MIX) (P) (PURIN###### OR PYRIMID#####) (P) SY
L4 21 S L3 (P) (CELL# OR CULTURE# OR MEDIA#)
L5 165 S L3 NOT L4

=> s l5 and librar###

16649 LIBRAR###
L6 13 L5 AND LIBRAR###

=> s l6 not l1

L7 13 L6 NOT L1

=> d 1-13

1. 5,739,290, Apr. 14, 1998, Monoclonal antibody against an interferon-induced human protein in pure form; Michel Andre Horisberger, et al., 530/388.2; 435/69.1, 172.2, 331; 530/388.1, 391.1; 935/89 [IMAGE AVAILABLE]

2. 5,728,525, Mar. 17, 1998, Fluorescent universal nucleic acid end label; Michael J. Conrad, 435/6, 91.1; 536/23.1, 24.3, 24.33, 25.3 [IMAGE AVAILABLE]

3. 5,702,920, Dec. 30, 1997, DNAS encoding human macrophage migration inhibition factor related peptides; Karel Gerrit Odink, et al., 435/69.5, 91.4, 252.33, 320.1, 325; 530/351, 412, 413; 536/23.5, 25.3 [IMAGE AVAILABLE]

4. 5,660,985, Aug. 26, 1997, High affinity nucleic acid ligands containing modified nucleotides; Wolfgang Pieken, et al., 435/6, 91.2; 536/22.1; 935/77, 78 [IMAGE AVAILABLE]

5. 5,652,099, Jul. 29, 1997, Probes comprising fluorescent nucleosides and uses thereof; Michael J. Conrad, 435/6; 536/24.3, 24.31, 24.32, 24.33, 26.23, 26.6, 26.7, 27.13, 27.6, 28.2, 28.5 [IMAGE AVAILABLE]

6. 5,612,468, Mar. 18, 1997, Pteridine nucletide analogs as fluorescent DNA probes; Mary E. Hawkins, et al., 536/22.1, 24.3 [IMAGE AVAILABLE]

7. 5,525,711, Jun. 11, 1996, Pteridine nucleotide analogs as fluorescent DNA probes; Mary E. Hawkins, et al., 536/22.1; 435/6; 436/501; 536/23.1, 25.3, 25.31, 25.32, 25.33, 25.34, 26.1, 26.2, 27.1, 27.13, 27.2, 28.1, 28.4, 55, 84; 935/77, 78 [IMAGE AVAILABLE]

8. 5,512,463, Apr. 30, 1996, Enzymatic inverse polymerase chain reaction **library** mutagenesis; Willem P. C. Stemmer, 435/91.2, 6, 69.1; 536/24.1, 24.33; 935/77, 78 [IMAGE AVAILABLE]

9. 5,466,585, Nov. 14, 1995, Interferon-induced human protein in pure form, monoclonal antibodies thereto, and test kits containing these antibodies; Michel A. Horisberger, et al., 435/69.1, 252.3, 252.33, 320.1; 536/23.1, 23.5 [IMAGE AVAILABLE]

10. 5,350,687, Sep. 27, 1994, Antibodies which bind to novel lymphokine related peptides; Karel G. Odink, et al., 435/335; 530/324, 387.1, 387.9, 388.1, 388.23, 391.3 [IMAGE AVAILABLE]

11. 5,304,603, Apr. 19, 1994, Leydig cell stimulator; C. Yan Cheng, et al., 514/12, 15, 21; 530/397, 398, 399, 416, 417; 935/60 [IMAGE AVAILABLE]

12. 5,198,350, Mar. 30, 1993, Interferon-induced human protein in pure form, monoclonal antibodies thereto and test kits containing these antibodies; Michel A. Horisberger, et al., 435/91.41, 91.51, 91.53, 172.3; 530/350, 387.9, 388.2; 536/23.5 [IMAGE AVAILABLE]

13. 5,180,808, Jan. 19, 1993, Versican core protein, nucleic acid sequences encoding the same, nucleic acid probes, anti-versican antibodies, and methods of detecting the same; Erkki I. Ruoslahti, 530/350, 387.9, 388.2, 389.1; 536/23.5 [IMAGE AVAILABLE]

=> d l. 2, 4, 6, 8 cit fd, ab, kwic

1. 5,739,290, Apr. 14, 1998, Monoclonal antibody against an interferon-induced human protein in pure form; Michel Andre Horisberger, et al., 530/388.2; 435/69.1, 172.2, 331; 530/388.1, 391.1; 935/89 [IMAGE AVAILABLE]

US PAT NO: 5,739,290 [IMAGE AVAILABLE] L7: 1 of 13
DATE FILED: May 18, 1995

ABSTRACT:
The invention relates to purified proteins induced in human cells by interferon .alpha. or .beta., RNAs, DNAs and hybrid vectors coding for said proteins, hosts tranformed with such a hybrid vector, processes for the preparation and purification of these proteins, DNAs, vectors and hosts, monoclonal antibodies specific to these proteins, monoclonal antibody derivatives, hybridoma celll lines secreting these monoclonal antibodies specific to these proteins, and their derivatives in the qualitative and quantitative determination of these proteins, test kits containing the monoclonal antibodies, and pharmaceutical preparations containing said proteins. A protein of the invention shows antiviral properties ascribed to interferons and may be a valuable indicator of the cell response to an interferon therapy.

SUMMARY:

BSUM(6)

The . . . coding mRNA or DNA from a mixture of mRNA derived from cells producing the desired polypeptides or from a DNA **library**, respectively. Although many examples for the isolation of an mRNA or DNA coding for a desired polypeptide have so far. . .

SUMMARY:

BSUM(34)

a) isolating a DNA coding for the protein from a cDNA or a genomic DNA **library** of human cells,

SUMMARY:

BSUM(63)

Genomic . . . tissue, preferably from human placenta or human fetal liver cells, according to methods known in the art. A genomic DNA **library** is prepared therefrom by digestion with suitable restriction endonucleases and incorporation into .lambda. charon phage, e.g. .lambda. charon 4A, following established procedures. The genomic DNA **library** replicated on nitrocellulose membranes is screened with a DNA probe, e.g. a synthetic DNA probe of at least 17 nucleotides. . .

DETDESC:

DETD(26)

Preparation and Screening of a cDNA **Library**

DETDESC:

DETD(27)

Starting with purified mRNA of Example 4.3, a cDNA **library** is prepared following the method of U. Gubler and B. J. Hoffman, Gene 25, 263-269 (1983) with some modifications.

DETDESC:

DETD(30)

An oligodeoxynucleotide **mixture** is **synthesized** on the basis of the known partial amino acid sequence of Example 3.2, namely the sequence Glu-Val-Asp-Ile-Ala-Lys-Ala. The 20-mer oligodeoxynucleotide **mixture** of the composition 5'-GCYTTIGCQATRTCIACYTC-3', wherein A, T, G, C and I stand for adenosine, thymidine, guanosine, cytosine and inosine, respectively, Y and R for **pyrimidines** (T, C) and **purines** (A, G), respectively, and Q for A, G and T, is **synthesized** following the procedure of Y. Ike et al., Nucleic Acid Research 11, 477 (1983). The 5' ends of the oligodeoxynucleotides. . .

DETDESC:

DETD(31)

Duplicate replicas of the bacterial clones of the cDNA **library** are hybridized with the above nucleotide mixture following the method of Hanahan and Meselson [loc. cit.] in a medium containing. . .

2. 5,728,525, Mar. 17, 1998, Fluorescent universal nucleic acid end label; Michael J. Conrad, 435/6, 91.1; 536/23.1, 24.3, 24.33, 25.3 [IMAGE AVAILABLE]

US PAT NO: 5,728,525 [IMAGE AVAILABLE] L7: 2 of 13
DATE FILED: Jun. 2, 1995

ABSTRACT:
Structural analogs of the six non-fluorescent N-nucleosides commonly found in RNA and DNA, which are inherently fluorescent under physiological conditions, are identified and methods for their preparation provided. Such analogs may be incorporated into DNA and/or RNA oligonucleotides via either enzymatic or chemical synthesis to produce fluorescent oligonucleotides having prescribed sequences. Such analogous sequences may be identical to, or the analogous complement of, template or target DNA or RNA sequences to which the fluorescent oligonucleotides can be hybridized. Methods of preparing either RNA or DNA oligonucleotide probes of the invention, intermediates used in such methods, and methods of using the probes of the invention in oligonucleotide amplification, detection, identification, and/or hybridization assays are also provided.

DETDESC:

DETD(58)

(V) 7-amino-3-(2'-DEOXY-.beta.-D-ribofuranosyl) pyrazolo [4,3d] **pyrimidine**-3'-O-phosphoramidite (2'-deoxyformycin A-3'-O-phosphoramidite). 2-deoxyformycin A was treated to attain 5'-O-protection with DMT and benzoylation of the 7-amino group by standard procedures.. . . mg of diisopropylammonium tetrazolide in 1.5 ml. of CH.sub.2 Cl.sub.2 was added a solution containing 0.33 mMol of O-cyanoethyl-N,N,N',N'-tetraisopropylphosphorodiamidite. The **mixture** was mixed for 4 hours and partitioned between CH.sub.2 Cl.sub.2 and chilled in saturated NaHCO.sub.3 solution. The CH.sub.2 Cl.sub.2 layer. . . foam. Identity of the product was verified by proton NMR, elemental analysis, fluorescence of the heterocycle, and use in oligonucleotide **synthesis**.

DETDESC:

DETD(65)

For . . . the Xef-1.alpha. was isolated and EcoRI linker sites added at the ends of the clone during construction of the cDNA **library**. The 1705 nucleotide fragment was inserted into a pSP72 plasmid bearing a T7 promoter on one strand and an SP6. . .

DETDESC:

DETD(129)

. . .
NO
(vi) ORIGINAL SOURCE:
(A) ORGANISM: Chlamydia trachomatis
(C) INDIVIDUAL ISOLATE: L2/434/Bu
(G) CELL TYPE: Bacterium
(vii) IMMEDIATE SOURCE:
(A) **LIBRARY**: lambda 1059 recombinant
(B) CLONE: lamdba gt11/L2/33
(viii) POSITION IN GENOME:
(A) CHROMOSOME/SEGMENT: omp112 ORF
(xi) SEQUENCE DESCRIPTION: SEQ ID. . .

4. 5,660,985, Aug. 26, 1997, High affinity nucleic acid ligands containing modified nucleotides; Wolfgang Pieken, et al., 435/6, 91.2; 536/22.1; 935/77, 78 [IMAGE AVAILABLE]

US PAT NO: 5,660,985 [IMAGE AVAILABLE] L7: 4 of 13
DATE FILED: Apr. 27, 1995

ABSTRACT:
Nucleic acid ligands containing modified nucleotides are described as are methods for producing such oligonucleotides. Such ligands enrich the chemical diversity of the candidate mixture for the SELEX process. Specific examples are provided of nucleic acids containing nucleotides modified at the 2'- and 5-position. Specific 2-OH and 2'-NH.sub.2 modified RNA ligands to thrombin are described.

DETDESC:

DETD(13)

Introduction of 2'-amino,2'-deoxy **pyrimidines** into the SELEX candidate **mixture** **library** requires preparation of their 5'-triphosphate derivatives. This is the form that is recognized as a substrate for DNA-dependent RNA polymerases. . . have to be prepared as the phosphoramidite in order to be incorporated into the final oligonucleotide ligand by automated chemical **synthesis**. These derivatives have been described, along with their method of preparation (Aurup et al. (1992) Biochemistry 31:9636). The **synthesis** of oligonucleotides containing 2'-amino,2'-deoxy **pyrimidines** by T7 RNA polymerase transcription of DNA templates has also been previously reported (Aurup et al. (1992) supra; Pieken et al. (1990) Supra). Homopolymers of the 2'-amino,2'-deoxy **pyrimidine** nucleotides have also been prepared by polymerization of their 5'-diphosphate derivatives (Hobbs et al. (1973) supra). Oligoribonucleotides containing 2'-amino,2'-deoxy **pyrimidines** have also been prepared by automated solid phase **synthesis**. The trifluoroacetyl group has been used for protection of the 2'-amino group in preparation of phosphoramidite monomers (Pieken et al.. . .

DETDESC:

DETD(14)

As . . . sequences are transcribed to its oligoribonucleotide homolog with T7 RNA polymerase. Thus, during each step in the enrichment process, the **library** is reassembled from its nucleoside triphosphate building blocks. This feature allows the introduction of chemically modified nucleoside triphosphates, and thus. . .

DETDESC:

DETD(17)

5-iodo-2'-amino, . . . Org. Chem. 36:250). It has not been applied to the uses discussed herein. The 5-iodo,2'-deoxyuridine is introduced into the SELEX **library** of candidate oligonucleotides as the 5'-triphosphate derivative. The 5-iodo substituent is not compatible with the reaction conditions used in standard. . .

DETDESC:

DETD(19)

In one embodiment of the method of the present invention wherein SELEX is performed with a **library** candidate mixture of oligonucleotides containing modified nucleotides, the desired amount of modified nucleotide incorporation in the oligonucleotides is achieved by. . .

6. 5,612,468, Mar. 18, 1997, Pteridine nucleotide analogs as fluorescent DNA probes; Mary E. Hawkins, et al., 536/22.1, 24.3 [IMAGE AVAILABLE]

US PAT NO: 5,612,468 [IMAGE AVAILABLE] L7: 6 of 13
DATE FILED: May 26, 1995

ABSTRACT:
The invention provides novel pteridine nucleotides which are highly fluorescent under physiological conditions and which may be used in the chemical synthesis of fluorescent oligonucleotides. The invention further provides for fluorescent oligonucleotides comprising one or more pteridine nucleotides. In addition the invention provides for pteridine nucleotide triphosphates which may be used as the constituent monomers in DNA amplification procedures.

SUMMARY:

BSUM(2)

Synthetic oligonucleotides find numerous uses in molecular biology as probes for screening genomic and complementary DNA **libraries**, as primers for DNA synthesis, sequencing, and amplification, and in the study of DNA-protein interactions. . . addition, oligonucleotide probes have. . .

SUMMARY:

BSUM(28)

This . . . to produce fluorescent oligonucleotides. These fluorescent oligonucleotides have many uses including, for example, probes for screening genomic and complementary DNA **libraries**, probes for in situ hybridization, primers for DNA synthesis, sequencing, and amplification, and as model substrates to investigate DNA-protein interactions.

DETDESC:

DETD(52)

The **synthesis** of 4,6-diamino-5-formylamino-2-hydroxy-**pyrimidine** is described by Pfleiderer, Chem. Ber. 90: 2272-2276 (1957). To 54 mL of formamide is added 9 g of 4,6-diamino-2-hydroxy-**pyrimidine** sulfate (17) and 4.5 g of sodium nitrite. This solution is heated to 60.degree. C. and 10 mL of formic. . . dithionite are added until a yellow coloring is obtained. During this time the temperature must not exceed 130.degree. C. The **mixture** is allowed to cool and the precipitate is filtered off under light vacuum. Finally, 18 is recrystallized from a large. . .

DETDESC:

DETD(54)

The **synthesis** of 4,5,6-triamino-**pyrimidine**-2-one hydrochloride is described by Pfleiderer, Chem. Ber. 90: 2272-2276 (1957). To 3 g of 4,6-diamino-5-formylamino-2-hydroxy-**pyrimidine** (18) is added 50 mL of 10% to 15 % methanolic HCl. The solution is refluxed for 7 hours and then allowed to cool. Once cooled, the **mixture** is filtered under light vacuum, then washed in alcohol and dried in a drying chamber. The hydrochloride is then dissolved. . .

DETDESC:

DETD(78)

Compound 17, 4,6-diamino-2-hydroxy-**pyrimidine** sulfate, is **synthesized** as described in Example 3 step (b). The conversion of 17 to 4,5,6-triamino-2-hydroxypyrimidine sulfate (29) is described by Bendich et al., J. Amer. Chem. Soc., 70: 3109-3113 (1948). To a **mixture** of 110 mL of glacial acetic acid and 110 mL of H.sub.2 O is added 15.3 g of very finely pulverized 17. The **mixture** is kept at about 5.degree. C. and 11.0 g of sodium nitrite in 25 mL of H.sub.2 O is added. . . moist precipitate is suspended in 400 mL of H.sub.2 O and 45 g of sodium hydrosulfite is added and the **mixture** is boiled for three minutes during which time the substance is bleached. To this solution 53 mL of 18N sulfuric. . .

DETDESC:

DETD(117)

The **synthesis** of 2-methylmercapto-4-amino-6-oxy-**pyrimidine** was described by Johns et al., J. Biol. Chem., 14: 381-387 (1913). To 100 mL of a 10 percent solution. . . with H.sub.2 O as the precipitate which resulted became too thick to permit thorough mixing to take place. After the **mixture** had stood at room temperature for 15 minutes, it gave an acid reaction and the precipitate was filtered by suction. The mercapto **pyrimidine** thus obtained was removed to a flask while still moist, 200 mL of 95 percent alcohol were added and the **mixture** was heated to the boiling point of the alcohol. This dissolved most of the precipitate. The flask was then cooled. . .

DETDESC:

DETD(123)

The **synthesis** of 6-amino-3-methyl-2-methylthio-5-nitroso-**pyrimidine**-4-one (=4-amino-1-methyl-2-methylthio-5-nitroso-6-oxodihydropyrimidine)was described by Schneider et al. Chem. Ber., 107: 3377-3394 (1974). To a suspension of 11 g of 4-amino-1-methyl-2-methylthio-6-oxodihydropyrimidine (43). . . acetic acid was added dropwise a solution of 50 g of sodium nitrite in 100 mL of H.sub.2 O. The **mixture** was stirred for an additional hour at room temperature and then cooled in a refrigerator overnight. The precipitate was collected. . .

8. 5,512,463, Apr. 30, 1996, Enzymatic inverse polymerase chain reaction **library** mutagenesis; Willem P. C. Stemmer, 435/91.2. 6, 69.1; 536/24.1, 24.33; 935/77, 78 [IMAGE AVAILABLE]

US PAT NO: 5,512,463 [IMAGE AVAILABLE] L7: 8 of 13
DATE FILED: Jun. 1, 1994

ABSTRACT:
This invention discloses a method for generating a recombinant **library** by introducing one or more changes within a predetermined region of double-stranded nucleic acid, comprising providing a first primer population and a second primer population, each of the populations having a variable base composition at known positions along the primers, the primers incorporating a class IIS restriction enzyme recognition sequence, being capable of directing change in the nucleic acid sequence and being substantially complementary to the double stranded nucleic acid to permit hybridization thereto. The method additionally comprises hybridizing the first and second primer populations to opposite strands of the double stranded nucleic acid to form a first pair of primer-templates oriented in opposite directions, performing enzymatic

inverse polymerase chain reaction to generate at least one linear copy of the double stranded nucleic acid incorporating the change directed by the primers, cutting the double stranded nucleic acid copy with a class IIS restriction enzyme to form a restricted linear nucleic acid molecule containing the change, joining termini of the restricted linear nucleic acid molecule to produce double-stranded circular nucleic acid and introducing the nucleic acid into compatible host cells. A method is additionally provided for generating a recombinant **library** using wobble-base mutagenesis.

TITLE: Enzymatic inverse polymerase chain reaction **library** mutagenesis

ABSTRACT:
This invention discloses a method for generating a recombinant **library** by introducing one or more changes within a predetermined region of double-stranded nucleic acid, comprising providing a first primer population. . . nucleic acid and introducing the nucleic acid into compatible host cells. A method is additionally provided for generating a recombinant **library** using wobble-base mutagenesis.

SUMMARY:

BSUM(10)

A modification of site-directed mutagenesis, random mutagenesis, permits the incorporation of random mutations into a polynucleotide. Mutant **libraries** are normally constructed by the mutagenesis of a small, defined area of a plasmid containing the gene or control region of interest. Methods for generating mutant **libraries** typically use synthetic oligonucleotides with random or biased mixtures of bases in one or more positions along the oligonucleotide. A. . . on the length of the template and on the conditions of enzymatic extension. This procedure permits the construction of large **libraries** of mutants having mutations in one or more regions of the polynucleotide or protein sequence as compared with the template. From these **libraries**, the transfectants or transformants can be screened for the desired characteristic. However, both random mutagenesis employing PCR, and random mutagenesis,. . . the sequences resulting in an additional decrease in the efficiency. Selected mutations may therefore be under or overrepresented in the **library**.

SUMMARY:

BSUM(11)

Thus, a need exists for a PCR-based mutagenesis method which allows the rapid and efficient alteration of nucleotide sequences to create **libraries** that are sufficiently diverse. The present invention satisfies this need and provides related advantages as well.

DRAWING DESC:

DRWD(7)

FIG. . . . schematic of EIPCR primer design. Line A shows the area of the wildtype leader sequence that was replaced by a **library** of leader sequences. Line B shows the design of the mutagenic primers relative to the template (SEQ ID NO: 26. . . the sequence of the identified, positive single chain Fv linker conferring increased protein expression that was obtained from the random **library** (SEQ ID NO: 28).

DRAWING DESC:

DRWD(8)

FIG. 7 is a schematic illustrating EIPCR promoter **library** mutagenesis. Line A is the template sequence. The underlined regions in Line B indicate the regions of variability in the **library**.

DRAWING DESC:

DRWD(10)

The invention is directed to a method for generating a recombinant mutagenesis **library** by introducing one or more changes within a predetermined region of double stranded nucleic acid, comprising providing a first primer. . .

DRAWING DESC:

DRWD(15)

In yet another preferred embodiment of this invention, a method is provided for generating a recombinant **library** using wobble-base mutagenesis comprising: providing a first primer population and a second primer population, said primers being substantially complementary to. .

DETDESC:

DETD(38)

This example shows the use of EIPCR for constructing large **libraries** of protein mutants.

DETDESC:

DETD(40)

To eliminate the need for molecular modelling, EIPCR was used to make a large **library** of different linkers and screen for a scFv clone that is not only active but also expressed at a high. . . first chain and the n-terminus of the mature second chain was replaced by a random mixture of bases, encoding a **library** of random linkers. The design of the primers is shown in FIG. 4B in . . . e shaded region where N represents. . .

DETDESC:

DETD(41)

Synthesis of the two primer populations used to construct the **library** was performed on a Milligen/Biosearch 8700 DNA synthesizer. The mixed base positions were synthesized using a 1:1:1:1 mixture of each. . .

DETDESC:

DETD(44)

One . . . amounts of the ligation reaction were electroporated into 20 ul of DH10B Electromax cells (GibcoBRL, Gaithersburg, Md.) to produce a **library** of scFv constructs. The Gibco-BRL electroporator and voltage booster was used as recommended by the manufacturer. Cells were plated at. . .

DETDESC:

DETD(45)

For . . . uCi of buffered .sup.111 Indium Chloride in a metal free tube. Colony lifts of the petri plates containing the protein **library** were prepared using BA83 nitrocellulose filters (Schleicher and Schuell, Keene, N.H.). The filters were blocked by incubation in Blotto (7%. . .

DETDESC:

DETD(46)

The quality of the protein **library** was determined by DNA sequencing of the linker of several unscreened clones. Sequencing was performed as described in Example I.. . .

DETDESC:

DETD(47)

The size of the **library** was determined by plating. In a typical electroporation, 30,000 cfu's were obtained from electroporation of 1 ul of ligation mixture into 20 ul of cells. The ligation contained 0.1 ug of DNA in 20 ul. The **library** size was about 3.times.10.sup.5 recombinants and the electroporation efficiency was 6.times.10.sup.6 cfu/ug. Approximately 30,000 clones were screened, and about 60. . .

DETDESC:

DETD(48)

LIBRARY MUTAGENESIS

DETDESC:

DETD(49)

Library mutagenesis using a heterogenous primer population permits incorporation of a large number of mutations into a population of host cells to generate a recombinant **library**. The resulting mutations are typically introduced into a polynucleotide suitable for cell delivery. The polynucleotide can additionally be adapted for. . . or confer a particular cell phenotype. The incorporation of a large number of mutations into a host population is termed **library** mutagenesis. In general, **libraries** can be prepared and screened for changes in any measurable cell property. Similarly, the transformed or transfected cells containing the. . .

DETDESC:

DETD(50)

There are several different methods for performing **library** mutagenesis that are available to those of skill in the art. A number of these methods use PCR to produce a **library** of mutant constructs. However, none of the existing methods for making mutant **libraries** are based on inverse PCR.

DETDESC:

DETD(52)

An important advantage of EIPCR **library** mutagenesis is that any plasmid or DNA fragment can be used to create a **library** of mutations. The only limitation is the efficiency of the PCR process. The generation of a complementary strand is limited. . . in the PCR technology, in particular, enzyme efficiency, will permit long DNA fragments to be used in this invention. The **library** mutagenesis methods disclosed herein are rapid and efficient and permit one of skill in the art to generate several **libraries** in a day. For example, once primers are prepared, **libraries** such as those prepared in Example III can be generated in 6 to 10 hours.

DETDESC:

DETD(53)

In EIPCR **library** mutagenesis, the entire plasmid is amplified using mutagenic primers. The simple design of EIPCR results in a high efficiency of ligation of mutant plasmids, thus generating a high level of diversity in the **library**. The higher the level of genetic

diversity in a recombinant **library**, the more likely the **library** will contain a mutant of interest readily identifiable by methods known to one of skill in the art. Another important benefit of EIPCR over other methods for **library** mutagenesis is that, as in EIPCR site-directed mutagenesis, mutations can be made in any area of the sequence independent of available restriction sequences. Restriction endonuclease recognition sites are not incorporated into the final construct. The usefulness of EIPCR for **library** mutagenesis, is described in Example III and illustrated in FIG. 5.

DETDESC:

DETD(54)

A method for performing **library** mutagenesis to generate a recombinant **library** by introducing changes within a predetermined region of linear or, preferably, circular double stranded DNA is contemplated herein. The method. . .

DETDESC:

DETD(55)

The . . . identical base compositions except at certain predetermined locations along the sequence that contain a variable composition. The primers for EIPCR **library** mutagenesis are otherwise designed similar to those primers used for EIPCR site-directed mutagenesis. Primer pairs for EIPCR mutagenesis are designed. . .

DETDESC:

DETD(57)

The extent of primer variability desirable for **library** mutagenesis is determined during primer synthesis. A mixture of nucleotides, or polynucleotides such as amino acid encoding trimers, are introduced. . . a particular base or trimer will be present at a particular position along the primer. Thus, for example, if the **library** is to contain variable mutations at position 6 of the primer oligonucleotide corresponding to a 75% average likelihood that position. . .

DETDESC:

DETD(58)

As . . . in FIG. 6 the primer pairs contain a complementary region at the class IIS restriction endonuclease cleavage site. In EIPCR **library** mutagenesis, this overlapping region preferably does not contain a mutation. This ensures that recircularization of the template can occur following. . .

DETDESC:

DETD(59)

Library mutagenesis can be used to alter any region within a nucleic acid sequence. These mutagenesis procedures are particularly useful for generating a **library** of mutations within the mature region of a protein sequence, within a leader sequence, or within sequences that do not. . . secondary structure, terminators, stability sites and cap sites. It is additionally contemplated within the scope of this invention that EIPCR **library** mutagenesis can be used to generate recombinant **libraries** containing altered sequences corresponding to tRNA or rRNA. Mutations in regulatory regions of a nucleic acid sequence can effect the. . . protein can effect protein function. It is therefore contemplated that the procedures described herein will be useful for generating recombinant **libraries** having mutations in any of these aforementioned regions of the nucleic acid.

DETDESC:

DETD(60)

EIPCR **library** mutagenesis can be used to alter the functional characteristics of a particular protein. A protein sequence engineered into an expression construct can be used as a nucleic acid template for EIPCR **library** mutagenesis. Like other forms of **library** mutagenesis, this procedure can be used, for example, to mutagenize a binding region on a polypeptide, thereby generating an expression **library** that can be screened or selected for altered binding characteristics. EIPCR mutagenesis can also be employed to mutate a region. . .

DETDESC:

DETD(61)

One type of mutagenesis contemplated within the scope of this invention is wobble base **library** mutagenesis using EIPCR. Wobble base mutagenesis incorporates mutations within the primer population in positions that correspond to the third position. . .

DETDESC:

DETD(62)

Alterations . . . is found in FIG. 6. Once a leader sequence is optimized for the expression of one particular polypeptide, using EIPCR **library** mutagenesis, within a given host, it is further contemplated that this leader sequence can then be linked to other gene. . . Similarly it is also contemplated within the scope of this invention that other regulatory regions can be optimized using EIPCR **library** mutagenesis and that these optimized regions can be engineered into other expression constructs for maximal expression of other polypeptides in. .

DETDESC:

DETD(63)

The . . . such as a vector. Vector choice is determined first by the choice of host cell used to create the desired **library**. It is well known to those of skill in the art that vectors are commercially available for protein expression in. . .

DETDESC:

DETD(64)

It is additionally contemplated within the scope of this invention that EIPCR **library** mutagenesis could be performed on one region of nucleic acid within a construct, and a second (and/or subsequent) mutagenesis procedure. . .

DETDESC:

DETD(65)

A. . . end of the primers are directed away from one another. The mechanics of hybridization and nucleic acid sequence amplification in **library** mutagenesis are similar to, if not identical to, those employed in EIPCR site-directed mutagenesis and will not be repeated here. Thus, the term "performing EIPCR" as a step in the production of a **library** of mutations following the hybridizing step of the primers to the template, comprises 1) extending the first pair of primer-templates. . .

DETDESC:

DETD(67)

The . . . Those with skill in the art will be able to select an appropriate screening or selection assay for a particular **library** to identify a particular clone of interest.

DETDESC:

DETD(68)

In a second example, EIPCR **library** mutagenesis can be used to alter the expression of one polypeptide in relation to a second polypeptide. Thus in Example. . .

DETDESC:

DETD(69)

In . . . contemplated method within the scope of this invention is one that identifies an optimized nucleic acid sequence derived from EIPCR **library** mutagenesis to promote an increase in the level of protein expression as compared with wildtype sequence.

DETDESC:

DETD(70)

The following examples of random EIPCR **library** mutagenesis are provided below. These examples are intended to illustrate but not limit the invention.

DETDESC:

DETD(72)

This example illustrates a preferred embodiment of EIPCR **library** mutagenesis, wobble base mutagenesis. In wobble base mutagenesis, mutations are introduced into the nucleic acid sequence without altering the amino. . . of a protein is variably mutated in the third base position of at least one codon to generate a recombinant **library** that can be screened for colonies with increased levels of eukaryotic protein expression as compared with non-mutated controls. The expression. . . by the difficulties associated with secreting a eukaryotic protein in a prokaryotic system. Without the optimized modifications generated by EIPCR **library** mutagenesis, described below, secretion and expression of eukaryotic proteins in prokaryotic systems is very low.

DETDESC:

DETD(77)

The two oligonucleotides used to construct the **library** are shown schematically in FIG. 6B. The oligonucleotides are designed to hybridize to opposite DNA strands of the pMCHAFv1 template. . . adjacent to the OmpA leader sequence. The resulting DNA and mRNA derived from this pool of mutated oligonucleotides is a **library** of sequences, all encoding the same OmpA protein sequence. The X in FIG. 6B corresponds to the variable positions within. . . X in FIG. 6B. Primer oligonucleotides also contain R and Y base designations. The R indicates the incorporation of a **purine** and the Y indicates the incorporation of a **pyrimidine**. The limitation of **purines** or **pyrimidines** in the third position of the codon ensures that the amino acid sequence is not modified by the incorporation of. . . third position of the nucleotide codon. and a complementary region to anchor the primer to the template during hybridization. Oligonucleotide **synthesis** was performed on a Milligen/Biosearch 8700 DNA **synthesizer** (Milligen, Burlington, Mass.). The mixed base positions were **synthesized** using a fresh 1:1:1:1 molar **mixture** of each of the four bases in the U reservoir. The oligonucleotides were made trityl-on and were purified with Nensorb.

. .

DETDESC:

DETD(88)

Size Determination of the Random **Library**

DETDESC:

DETD(90)

The theoretical maximum complexity of the **library** is 8.times.10.sup.9 different sequences. The actual size of the **library** was determined by plating. In a typical electroporation, 5 .times.10.sup.5 colony forming units (cfu) were obtained from electroporation of 1. . . .mu.l of ligation mixture into 20 .mu.l of cells. The ligation contained 0.5 .mu.g of DNA in 20 .mu.l. The **library** size is thus about 1.times.10.sup.7 and the efficiency was 2 .times.10.sup.7 cfu/ug. For this particular example, the screening assay was found to be more limiting than **library** size.

DETDESC:

DETD(102)

In another preferred embodiment of this invention, EIPCR is used to create a promoter **library** for gene expression in E. coli.

DETDESC:

DETD(103)

In this particular example of the preparation of a promoter **library**, Fv fragment expression of the anti-metal chelate antibody (CHA255) is optimized using a population of primers with variable sequences in. . .

DETDESC:

DETD(105)

In. . . promoter sequence is provided in FIG. 7B and as ID SEQ NO: 33. The inserted region includes the Lac promoter **library** region followed by the wildtype Lac operator followed by the ribosome binding site. The sequence including the ribosome binding site. . .

DETDESC:

DETD(107)

The primers used to create the recombinant promoter **library** are provided as ID SEQ NO: 31 and ID SEQ NO: 32. ID SEQ NO: 31 directed mutations to the. . . underlined position is a cytosine. The expected bias of the primer population at this position is: 75%:C, 8.3%:G, 8.3%:T, 8.3%:A. **Libraries** were created using primer populations based on ID SEQ NO: 31 and ID SEQ NO: 32. Other **libraries** were created using one biased primer population while the other member of the primer pair contained no variability. As an example, a recombinant **library** was created using ID SEQ NO: 31 to prepare a variable first primer pool, while the second primer corresponded exactly with ID SEQ NO: 32 and therefore contained no variability. The **library** generated from these primers contains mutated sequences at the ribosome binding site and a constant Lac promoter sequence. The oligonucleotides. . .

DETDESC:

DETD(113)

In yet another preferred embodiment of this invention, EIPCR is employed to create a eukaryotic mutagenesis **library**. Similar to EIPCR in E. coli, any region of a eukaryotic vector can be modified. Eukaryotic expression vectors may be. . . within translated regions of a particular gene. In this example, a retroviral expression vector pLN is used to generate a **library** of mutations within the ribosome binding site of the Neomycin resistance gene. The ribosome binding site, also known as a. . .

DETDESC:

DETD(115)

The . . . repeats (LTR). Between the LTR regions is the Neomycin resistance gene (Neo.sup.r). The Neo.sup.r ribosome binding site is targeted for **library** mutagenesis to confer increased resistance to G418 in the eukaryotic cell line NIH 3T3 (ATCC). The plasmid has a final. . .

DETDESC:

DETD(124)

It . . . required to distinguish the optimized mutation. Neomycin resistance is just one of a variety of selection systems useful for EIPCR **library** mutagenesis applications. For example, as a selection procedure, transfected cells can be screened by a Fluorescent Activated Cell Sorter (FACS). . .

DETDESC:

DETD(125)

Thus, EIPCR **library** mutagenesis is a reliable and efficient method for obtaining optimized nucleic acid sequences. EIPCR reactions have an efficiency of 95% or better in reactions designed to measure the efficiency of mutagenesis. EIPCR **library** mutagenesis is generally applicable for de novo design or redesign of protein or nucleic acid sequences.

CLAIMS:

CLMS(1)

I claim:

1. A method for generating a recombinant mutagenesis **library** by introducing one or more changes within a predetermined region of a double stranded circular DNA sequence, comprising the steps. . .
said change; and
(f) introducing said recircularized copies of double stranded DNA sequence into compatible host cells, wherein a recombinant mutagenesis **library** is generated.

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(FILE 'USPAT' ENTERED AT 18:33:34 ON 22 APR 1998)
L1 3 S COMBINATORIAL (P) (PURIN###### OR PYRIMID#####)
L2 5625 S (MIXT##### OR MIX) (P) (PURIN###### OR PYRIMID#####)
L3 186 S (MIXT##### OR MIX) (P) (PURIN###### OR PYRIMID#####) (P)
SY
L4 21 S L3 (P) (CELL# OR CULTURE# OR MEDIA#)
L5 165 S L3 NOT L4
L6 13 S L5 AND LIBRAR###
L7 13 S L6 NOT L1

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=> s chemical (3n) (librar or mix or mixtur####) (p) (purine# or pyrimidine#)

380309 CHEMICAL
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100830 MIX
567672 MIXTUR####
5132 PURINE#
13661 PYRIMIDINE#
L1 2 CHEMICAL (3A) (LIBRAR OR MIX OR MIXTUR####) (P) (PURINE# OR PY
RIMIDINE#)

=> d cit 1-2

1. 4,347,315, Aug. 31, 1982, Synthesis of ribosides using bacterial phosphorylase; Thomas A. Krenitsky, et al., 435/87, 72, 88; 514/43 [IMAGE AVAILABLE]

2. 4,082,911, Apr. 4, 1978, Process for the preparation of nucleosides; Helmut Vorbruggen, 536/27.11, 27.21, 28.3, 28.4, 28.54, 28.7 [IMAGE AVAILABLE]

=> d 1, 2 cit fd ab kwic

1. 4,347,315, Aug. 31, 1982, Synthesis of ribosides using bacterial phosphorylase; Thomas A. Krenitsky, et al., 435/87, 72, 88; 514/43 [IMAGE AVAILABLE]

US PAT NO: 4,347,315 [IMAGE AVAILABLE] L1: 1 of 2
DATE FILED: Apr. 25, 1980

ABSTRACT:
4-Substituted-3-deazapurine ribosides are prepared by the enzymatically catalyzed reaction of 4-substituted-3-deazapurine with a ribose donor.

SUMMARY:

BSUM(34)

The desired **purine** ribonucleosides may be recovered or isolated by any of the known means for separating **mixtures** of **chemical** compounds into individual compounds. For example, the separation can be affected by utilizing differences in the solubilities in various solvents. . .

2. 4,082,911, Apr. 4, 1978, Process for the preparation of nucleosides; Helmut Vorbruggen, 536/27.11, 27.21, 28.3, 28.4, 28.54, 28.7 [IMAGE AVAILABLE]

US PAT NO: 4,082,911 [IMAGE AVAILABLE] L1: 2 of 2
DATE FILED: Feb. 23, 1976

ABSTRACT:
The use of trialkylsilyl ester catalysts in place of Lewis acid or Friedel-Crafts catalysts in nucleoside synthesis gives increased yields and a simplified working-up process for recovering the nucleoside product.

SUMMARY:

BSUM(2)

Various . . . are known per se. For example, Y. Furukawa et al in Chem. Pharm. Bull. 16:1067 (1968) described the reaction of **purines** with 1-O-acyl or 1-O-alkyl derivatives of a sugar in the presence of Friedel-Crafts catalysts to obtain the corresponding N-glycosides. German. . . the salts of the Lewis acids and/or Friedel-Crafts catalysts formed during the reaction frequently causes difficulties in working-up the reaction **mixtures** and additional **chemical** operations thus become necessary. These disadvantages also manifest themselves in a reduced yield of the finally desired product.

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ALL L# QUERIES AND ANSWER SETS ARE DELETED AT LOGOFF
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U.S. Patent & Trademark Office LOGOFF AT 18:51:37 ON 22 APR 1998

PATENT NO.: 5,459,255
ISSUED: October 17, 1995 (19951017)
INVENTOR(s): Cook, P. Dan, Carlsbad, CA (California), US (United States of America)
Ramasamy, Kanda S., Laguna Hills, CA (California), US (United States of America)
Manoharan, Muthiah, Carlsbad, CA (California), US (United States of America)
ASSIGNEE(s): Isis Pharmaceuticals, Inc, (A U.S. Company or Corporation), Carlsbad, CA (California), US (United States of America)
[Assignee Code(s): 28846]
APPL. NO.: 8-159,088
FILED: November 29, 1993 (19931129)

RELATED APPLICATIONS

This application is a continuation-in-part of PCT International Patent Application No. PCT US91 00243, filed Jan. 11, 1991, which published as WO 91-10671 on Jul. 25, 1991, and its corresponding National Phase U.S. patent application Ser. No. 854,634, filed Jul. 1, 1992, now abandoned, both of which are continuation-in-part applications of U.S. patent Ser. No. 463,358 filed Jan. 11, 1990, now abandoned, U.S. patent application Ser. No. 566,977 filed Aug. 13, 1990, now abandoned, and U.S. Patent application Ser. No. 854,634, filed Jul. 1, 1992, now abandoned.

FULL TEXT: 2260 lines

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02438353
Utility
LIQUID CRYSTAL COMPOUNDS HAVING PERFLUOROETHER TERMINAL PORTIONS
[Achiral and having low-temperature smectic mesophases or or latent smectic mesophases; used in mixtures with fluorinated liquid crystals; low birefringence and viscosity; high speed switches; stability]

PATENT NO.: 5,437,812
ISSUED: August 01, 1995 (19950801)
INVENTOR(s): Janulis, Eugene P., Mahtomedi, MN (Minnesota), US (United States of America)
Johnson, Gilbert C., Anoka, MN (Minnesota), US (United States of America)
Savu, Patricia M., Maplewood, MN (Minnesota), US (United States of America)
Spawn, Terence D., Maplewood, MN (Minnesota), US (United States of America)
Radcliffe, Marc D., Woodbury, MN (Minnesota), US (United States of America)
ASSIGNEE(s): Minnesota Mining and Manufacturing Company, (A U.S. Company or Corporation), St Paul, MN (Minnesota), US (United States of America)
[Assignee Code(s): 55992]
APPL. NO.: 8-45,283
FILED: April 16, 1993 (19930416)
DISCLAIMER: November 16, 2010 (20101116)

This application is a continuation-in-part of application Ser. No. 07-875,223 filed Apr. 28, 1992 now U.S. Pat. No. 5,262,082.

FULL TEXT: 1462 lines

2/3/8
DIALOG(R)File 654:US PAT.FULL.
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02420788
Utility
FERROELECTRIC LIQUID CRYSTAL COMPOUNDS CONTAINING HALOGENATED CORES AND
CHIRAL HALOALKOXY TAIL UNITS
[For electro-optical and display devices]

PATENT NO.: 5,422,037
ISSUED: June 06, 1995 (19950606)
INVENTOR(s): Wand, Michael, Boulder, CO (Colorado), US (United States of America)
Vohra, Rohini, Boulder, CO (Colorado), US (United States of America)
Walba, David, Boulder, CO (Colorado), US (United States of America)
ASSIGNEE(s): Displaytech, Inc, (A U.S. Company or Corporation), Boulder, CO (Colorado), US (United States of America)
[Assignee Code(s): 26460]
APPL. NO.: 8-6,263
FILED: January 19, 1993 (19930119)

RELATEDNESS OF THE APPLICATION

This application is a continuation-in-part of U.S. Ser. No. 556,161, filed Jul. 20, 1990, which is a continuation-in-part of U.S. Ser. No. 164,233, filed Mar. 4, 1988, which issued on Sep. 24, 1991 as U.S. Pat. No. 5,051,506. U.S. Ser. No. 556,161 now U.S. Pat. No. 5,180,520 and U.S. Pat. No. 5,051,506 are incorporated herein in their entirety by reference.

This invention was made with partial support of the United States Government under National Science Foundation Grant No. ISI8860992. The United States Government has certain rights in this invention.

FULL TEXT: 1736 lines

2/3/9
DIALOG(R)File 654:US PAT.FULL.
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02374503
Utility
FERROELECTRIC LIQUID CRYSTAL COMPOUNDS CONTAINING CHIRAL HALOALKOXY TAIL
UNITS AND COMPOSITIONS CONTAINING THEM

PATENT NO.: 5,380,460
ISSUED: January 10, 1995 (19950110)
INVENTOR(s): Wand, Michael D., Boulder, CO (Colorado), US (United States of America)
Thurmes, William N., Longmont, CO (Colorado), US (United States of America)
Walba, David M., Boulder, CO (Colorado), US (United States of America)
ASSIGNEE(s): Displaytech, Inc, (A U.S. Company or Corporation), Boulder, CO (Colorado), US (United States of America)
[Assignee Code(s): 26460]
APPL. NO.: 7-763,134
FILED: September 20, 1991 (19910920)

This invention was made with partial support of the United States Government under Small Business Innovation Research grant numbers F19628-85--C-0087 and F33615-87--C5293 from the U.S. Air Force. The United States Government has certain rights in this invention.

FULL TEXT: 1683 lines

2/3/10
DIALOG(R)File 654:US PAT.FULL.
(c) format only 1998 The Dialog Corp. All rts. reserv.

02332438
Utility
1,4-SUBSTITUTED DIHYDROBENZENE DERIVATIVES
[Liquid crystal compositions]

PATENT NO.: 5,342,546
ISSUED: August 30, 1994 (19940830)
INVENTOR(s): Sato, Hisato, Tokyo, JP (Japan)
Naito, Tomijiro, Tokyo, JP (Japan)
Tuji, Yasunobu, Sayama, JP (Japan)
ASSIGNEE(s): Citizen Watch Co, Ltd, 0, Tokyo, JP (Japan)
LCC Consultants Co, Ltd, (A Non-U.S. Company or Corporation), Tokyo, JP (Japan)
[Assignee Code(s): 17623; 34218]
APPL. NO.: 7-888,634
FILED: May 27, 1992 (19920527)
FULL TEXT: 1743 lines

2/3/11
DIALOG(R)File 654:US PAT.FULL.
(c) format only 1998 The Dialog Corp. All rts. reserv.

02243077
Utility
FERROELECTRIC LIQUID CRYSTAL COMPOUNDS HAVING PERFLUOROETHER TERMINAL
PORTIONS

PATENT NO.: 5,262,082
ISSUED: November 16, 1993 (19931116)
INVENTOR(s): Janulis, Eugene P., Mahtomedi, MN (Minnesota), US (United States of America)
Johnson, Gilbert C., Lino Lakes, MN (Minnesota), US (United States of America)
Savu, Patricia M., Maplewood, MN (Minnesota), US (United States of America)
Spawn, Terence D., Maplewood, MN (Minnesota), US (United States of America)
ASSIGNEE(s): Minnesota Mining & Manufacturing Company, (A U.S. Company or Corporation), St. Paul, MN (Minnesota), US (United States of America)
[Assignee Code(s): 55992]
APPL. NO.: 7-875,223
FILED: April 28, 1992 (19920428)
FULL TEXT: 1037 lines

2/3/12
DIALOG(R)File 654:US PAT.FULL.
(c) format only 1998 The Dialog Corp. All rts. reserv.

02150343
Utility
FERROELECTRIC LIQUID CRYSTAL COMPOSITIONS CONTAINING HALOGENATED CORES AND
CHIRAL HALOGENATED CORES AND CHIRAL HALOALKOXY TAIL UNITS

PATENT NO.: 5,180,520
ISSUED: January 19, 1993 (19930119)
INVENTOR(s): Wand, Michael, Boulder, CO (Colorado), US (United States of America)
Vohra, Rohini, Boulder, CO (Colorado), US (United States of America)
Walba, David, Boulder, CO (Colorado), US (United States of

America)
ASSIGNEE(s): University Research Corporation, (A U.S. Company or Corporation), Boulder, CO (Colorado), US (United States of America)
[Assignee Code(s): 29609]
APPL. NO.: 7-556,161
FILED: July 20, 1990 (19900720)

RELATEDNESS OF THE APPLICATION

This application is a continuation-in-part of U.S. Ser. No. 164,233, filed Mar. 4, 1988 now U.S. Pat. No. 5,051,506 which is incorporated herein in its entirety by reference.

This invention was made with partial support States Government under National Science Foundation Grant no. ISI8860992. The United States Government has certain rights in this invention.

FULL TEXT: 1119 lines

2/3/13
DIALOG(R)File 654:US PAT.FULL.

02004072
Utility
PHARMACEUTICAL PREPARATIONS
[Conprising a micelle or a vesicle of a cationic teniside based on a hydrophobic alkyl-substituted pyridinium compound and a hydrophobic drug; drug delivery; skin disorders]

PATENT NO.: 5,045,530
ISSUED: September 03, 1991 (19910903)
INVENTOR(s): Paradies, Henrich H., Iserlohn, DE (Germany)
ASSIGNEE(s): Medici Chem -Pharm Fabrik Putter GmbH, (A Non-U.S. Company or Corporation), DE (Germany)
[Assignee Code(s): 20715]
APPL. NO.: 7-344,363
FILED: April 27, 1989 (19890427)
PRIORITY: 3626700, DE (Germany), August 7, 1986 (19860807)
FULL TEXT: 4355 lines
? begin 411

30apr98 20:02:48 User233832 Session D95.8
$9.96 0.083 Hrs File654
$11.70 13 Type(s) in Format 3
$11.70 13 Types
$21.66 Estimated cost File654
$21.66 Estimated cost this search
$94.23 Estimated total session cost 0.482 Hrs.
File 411:DIALINDEX(R)

DIALINDEX(R)
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*** DIALINDEX search results display in an abbreviated ***
*** format unless you enter the SET DETAIL ON command. ***
? s (adinine or guanine or cytosine or uracile or thymine)(6N) (SCAFFOLD? ? or core? ?) AND(SYNTHESI????? OR PRODUC?????)(5N) (MIXTURE? ? or MIX or mixes)

>>>No files selected. Use SET FILES to choose at least two files; then use SELECT alone to reissue this SELECT statement.
? set files allchem all med

>>>"MED" is not a valid Dialindex category
You have 456 files in your file list.
(To see banners, use SHOW FILES command)
? set files allchem allmed

You have 174 files in your file list.
(To see banners, use SHOW FILES command)
? s (adinine or guanine or cytosine or uracile or thymine)(6N) (SCAFFOLD? ? or core? ?) AND(SYNTHESI????? OR PRODUC?????)(5N) (MIXTURE? ? or MIX or mixes)

Your SELECT statement is:
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Items File
Examined 50 files
Examined 100 files
Examined 150 files

No files have one or more items; file list includes 174 files.

? s (adinine or guanine or cytosine or uracile or thymine)(8N) (SCAFFOLD? ? or core? ?) AND(SYNTHESI????? OR PRODUC?????)(8N) (MIXTURE? ? or MIX or mixes)

Your SELECT statement is:
s (adinine or guanine or cytosine or uracile or thymine)(8N) (SCAFFOLD? ? or core? ?) AND(SYNTHESI????? OR PRODUC?????)(8N) (MIXTURE? ? or MIX or mixes)

Items File
Examined 50 files
Examined 100 files
1 654: US PAT.FULL._1990-1998'Apr 21
Examined 150 files

1 file has one or more items; file list includes 174 files.

? begin 654

30apr98 20:12:05 User233832 Session D95.9
$4.98 0.166 Hrs File411
$4.98 Estimated cost File411
$4.98 Estimated cost this search
$99.21 Estimated total session cost 0.648 Hrs.

File 654:US PAT.FULL. 1990-1998/Apr 21
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*File 654: Reassignment data now current through 03/24/98.
Reexamination, extension, expiration, reinstatement updated weekly.

Set Items Description
? s (adinine or guanine or cytosine or uracile or thymine)(8N) (SCAFFOLD? ? or core? ?) AND(SYNTHESI????? OR PRODUC?????)(8N) (MIXTURE? ? or MIX or mixes)

Processing
Processing
0 ADININE
3140 GUANINE
2789 CYTOSINE
9 URACILE
1940 THYMINE
998 SCAFFOLD? ?
82944 CORE? ?
8 ((((ADININE OR GUANINE) OR CYTOSINE) OR URACILE) OR THYMINE)(8N)(SCAFFOLD? ? OR CORE? ?)
90750 SYNTHESI?????
599069 PRODUC?????
231872 MIXTURE? ?
45152 MIX
12334 MIXES
63147 (SYNTHESI????? OR PRODUC?????)(8N)((MIXTURE? ? OR MIX) OR MIXES)
S1 1 (ADININE OR GUANINE OR CYTOSINE OR URACILE OR THYMINE)(8N) (SCAFFOLD? ? OR CORE? ?) AND(SYNTHESI????? OR PRODUC?????)(8N) (MIXTURE? ? OR MIX OR MIXES)
? t s1/3/1

1/3/1
DIALOG(R)File 654:US PAT.FULL.

02475179
Utility
CELL SIGNALING INHIBITORS

PATENT NO.: 5,470,878
ISSUED: November 28, 1995 (19951128)
INVENTOR(s): Michnick, John, Seattle, WA (Washington), US (United States of America)
Underiner, Gail E., Brier, WA (Washington), US (United States of America)
Klein, J. Peter, Vashon Island, WA (Washington), US (United States of America)
Rice, Glenn C., Seattle, WA (Washington), US (United States of America)
ASSIGNEE(s): Cell Therapeutics, Inc, (A U.S. Company or Corporation), Seattle, WA (Washington), US (United States of America)
[Assignee Code(s): 32953]
APPL. NO.: 8-164,081
FILED: December 08, 1993 (19931208)

CROSS-REFERENCE TO RELATED APPLICATION

This application is a Continuation-in-Part Application of U.S. application Ser. No. 08-040,820 filed Mar. 31, 1993, now abandoned.

FULL TEXT: 2585 lines
? t s1/ab,k/1

1/AB,K/1
DIALOG(R)File 654:(c) format only 1998 The Dialog Corp. All rts. reserv.

ABSTRACT

Therapeutic compounds have the formula:(X)j-(non-cyclic core moiety),

j being an integer from one to three, the core moiety is non-cyclic and X is a racemic mixture, R or S enantiomer, solvate, hydrate, or salt of: [See structure in original document] *C is a chiral carbon atom, n is an integer from one to four (preferably from one to three), one or more carbon atoms of (CH sub 2) sub n may be substituted by a keto or hydroxy group, and m is an integer from one to fourteen. Independently, R sub 1 and R sub 2 may be a hydrogen, a straight or branched chain alkane or alkene of up to twelve carbon atoms in length, or --(CH sub 2) sub w R sub 5, w being an integer from two to fourteen and R sub 5 being a mono-, di- or tri-substituted or unsubstituted aryl group, substituents on R sub 5 being hydroxy, chloro, fluoro, bromo, or C sub 1-6 alkoxy. Or jointly, R sub 1 and R sub 2 form a substituted or unsubstituted, saturated or unsaturated heterocyclic group having from four to eight carbon atoms, N being a hetero atom. R sub 3 is a hydrogen or C sub 1-3. Or, therapeutic compounds may also have the formula: [See structure in original document] R sub 4 is a hydrogen, a straight or branched chain alkane or alkene of up to eight carbon atoms in length, --(CH sub 2) sub w R sub 5, w being an integer from two to fourteen and R

sub 5 being a mono-, di- or tri-substituted or unsu. . .uted aryl group, substituents on R sub 5 being hydroxy, chloro, fluoro, bromo, or C sub 1-6 alkoxy, or a substituted or unsubstituted, saturated or unsaturated heterocyclic group having from four to eight carbon atoms. r and s are independently integers from one to four, the sum (r+s) not being greater than five. t is an integer from one to fourteen and one or more carbon atoms of (CH sub 2) sub s or (CH sub 2) sub t may be substituted by a keto or hydroxy group.

...thymine; triazine; tricyclododecane; uric acid; uracil; vitamins A, E or K; or xanthine.

Preferred cyclic %cores% include substituted or unsubstituted glutarimide, methylthymine, methyluracil, %thymine%, theobromine, uracil and xanthine, most preferably halogen-substituted xanthine. Exemplary preferred cores include: 1,3...
...thymine; triazine; tricyclododecane; uric acid; uracil; vitamins A, E or K; or xanthine.

Preferred cyclic %cores% include substituted or unsubstituted glutarimide, methylthymine, methyluracil, %thymine%, theobromine, uracil and xanthine, most preferably halogen-substituted xanthine. Exemplary preferred cores include: 1,3... intermediates for the synthesis of other compounds.

1-(8,9-Oxidononyl)-3,7-dimethylxanthine was %synthesized% as follows:

A %mixture% of theobromine (17.64 g, 98 mmol) and sodium hydride (2.35 g, 98 mmol...3,7-dimethylxanthine (380 mg, 91% yield).

1-(5,6-Oxidohexyl)-3,7-dimethylxanthine was %synthesized% as follows:

A %mixture% of 1-bromohexene (10.7 g, 66 mmol), sodium hydride (1.58 g, 66 mmol...

...dimethylxanthine (900 mg, 100% yield) as white crystals.

3-(5,6-Oxidohexyl)-1-methyluracil was %synthesized% as follows:

A %mixture% of sodium hydride (86 mg, 3.6 mmol) and 1-methyluracil (500 mg, 4 mmol...150 mg, 67% yield) as a colorless oil.

3-(5,6-Oxidohexyl)-1-methylthymine was %synthesized% as follows:

A %mixture% of sodium hydride (343 mg, 14 mmol) and 1-methylthymine (2.00 g, 14 mmol...methylbenzoyleneurea (0.77 g, 97%) as a white solid.

1-(5,6-Oxidohexyl)glutarimide was %synthesized% as follows:

A %mixture% of glutarimide (2.00 g, 7.7 mmol) and sodium hydride (425 mg, 17.7...of synthesis for 1-(9-Tetradecylamino-8-hydroxynonyl)-3,7-dimethylxanthine (compound no. 73). A %mixture% of 1-(8,9-oxidononyl)-3,7-dimethylxanthine (%synthesized% in example 1 above, 1.00 g, 3.1 mmol) and anhydrous lithium perchlorate (329...
? ds

Set Items Description
S1 1 (ADININE OR GUANINE OR CYTOSINE OR URACILE OR THYMINE)(8N)
(SCAFFOLD? ? OR CORE? ?) AND(SYNTHESI????? OR PRODUC?????)(8N)
(MIXTURE? ? OR MIX OR MIXES)
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30apr98 20:15:30 User233832 Session D95.10
$7.92 0.066 Hrs File654
$0.90 1 Type(s) in Format 3
$1.25 1 Type(s) in Format 4 (UDF)
$2.15 2 Types
$10.07 Estimated cost File654
$10.07 Estimated cost this search
$109.28 Estimated total session cost 0.715 Hrs.
Logoff: level 98.04.30 D 20:15:30

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Trying 01182...Open

PLEASE ENTER HOST PORT ID:
PLEASE ENTER HOST PORT ID:x
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* * * * * * RECONNECTED TO U.S. Patent & Trademark Office * * * * * *
SESSION RESUMED IN FILE 'USPAT' AT 11:14:53 ON 03 MAY 1998
FILE 'USPAT' ENTERED AT 11:14:53 ON 03 MAY 1998
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(FILE 'USPAT' ENTERED AT 11:10:07 ON 03 MAY 1998)
L1 78 S PEPTIDE NUCLEIC ACID
E PAVIA/IN
L2 23 S E11
L3 8 S L2 AND (PYRIMIDINE# OR PURINE#)

=> d 1-8

1. 5,714,127, Feb. 3, 1998, System for multiple simultaneous synthesis; Sheila H. H. DeWitt, et al., 422/131, 130, 196; 435/304.1, 305.2; 530/333, 334; 935/88 [IMAGE AVAILABLE]

2. 5,702,672, Dec. 30, 1997, Apparatus and method for multiple simultaneous synthesis; Sheila H. H. DeWitt, et al., 422/131, 130, 196; 435/304.1, 305.2; 530/333, 334; 935/88 [IMAGE AVAILABLE]

3. 5,612,002, Mar. 18, 1997, Apparatus and method for multiple simultaneous synthesis; Donna R. Cody, et al., 422/131, 130, 196; 435/304.1, 305.2; 530/333, 334; 935/88 [IMAGE AVAILABLE]

4. 5,593,642, Jan. 14, 1997, Apparatus for multiple simultaneous synthesis; Sheila H. H. DeWitt, et al., 422/131, 130, 196; 435/304.1, 305.2; 935/88 [IMAGE AVAILABLE]

5. 5,582,801, Dec. 10, 1996, Apparatus for multiple simultaneous synthesis; Sheila H. H. DeWitt, et al., 422/131, 130; 435/304.1, 305.2; 935/88 [IMAGE AVAILABLE]

6. 5,567,391, Oct. 22, 1996, Apparatus for multiple simultaneous synthesis; Sheila H. H. DeWitt, et al., 422/131, 130, 196; 435/304.1, 305.2; 935/88 [IMAGE AVAILABLE]

7. 5,565,173, Oct. 15, 1996, Apparatus and method for multiple simultaneous synthesis; Sheila H. H. DeWitt, et al., 422/131, 130, 196; 435/304.1, 305.2; 935/88 [IMAGE AVAILABLE]

8. 5,324,483, Jun. 28, 1994, Apparatus for multiple simultaneous synthesis; Donna R. Cody, et al., 422/131, 99, 101, 104 [IMAGE AVAILABLE]

=> d 8 hit

US PAT NO: 5,324,483 [IMAGE AVAILABLE] L3: 8 of 8
INVENTOR: Donna R. Cody, Saline, MI
Sheila H. H. DeWitt, Dexter, MI
John C. Hodges, Ann Arbor, MI
John S. Kiely, Ann Arbor, MI
Walter H. Moos, Oakland, CA
Michael R. Pavia, Newton, MA
Bruce D. Roth, Ann Arbor, MI
Mel C. Schroeder, Dexter, MI
Charles J. Stankovic, Ann Arbor, MI

DETDESC:

DETD(231)

6,7-Dihydro-4H-pyrazolo[1,5-a]pyrrolo[3,4-d]**pyrimidine**-5,8diones

DETDESC:

DETD(240)

The crude reaction mixtures are transferred to the corresponding tubes in the SPE apparatus equipped with 20 mL columns and 5 .mu.m filters. Each reaction mixture is diluted and mixed with 15 mL of H.sub.2 O to precipitate the desired products. The suspensions are then filtered and washed with H.sub.2 O and Et.sub.2 O (3.times.2 mL, each). The resulting solids are then dissolved with CH.sub.2 Cl.sub.2 (3.times.2 mL washes) run through the filter and collected in clean tubes. These solutions are then concentrated as set forth in Example 3. The crude products are then redissolved, transferred to tared vials, and reconcentrated. The final crude products including, 6-cyclohexyl-6.7-dihydro-4-(phenylmethyl)-2-phenyl-4H-pyrazolo[1,5a]pyrrolo[3,4-d]-**pyrimidine** -5,8-dione; 6-Cyclohexyl-6.7-dihydro-4-(2-oxo-2-phenylethyl)-2-phenyl-4H-pyrazolo[1,5-a]pyrrolo [3,4-d]-**pyrimidine**-5.8-dione; 6-Cyclohexyl-6.7-dihydro-4-(phenylmethyl)-2-(4-chlorophenyl)-4H-pyrazolo[1,5-a]pyrrolo[3,4-d]-**pyrimidine**-5,6-dione; 6-Cyclohexyl-6,7-dihydro-4-(2-oxo-2-phenylethyl)-2-(4-chlorophenyl)-4H-pyrazolo [1.5-a]pyrrolo[3.4-d]-**pyrimidine**-5,8-dione; 6-Hexyl-6,7-dihydro-4-(phenylmethyl)-2-phenyl-4H-pyrazolo[1,5-a]pyrrolo[3,4-d]-**pyrimidine** -5,8-dione; 6-Hexyl-6,7-dihydro-4-(2-oxo-2-phenylethyl)-2-phenyl-4H-pyrazolo[1,5-a]-pyrrolo [3,4d]-**pyrimidine**-5,8-dione; 6-Hexyl-6,7-dihydro-4-(phenylmethyl)-2-(4-chlorophenyl)-4H-pyrazolo[1,5-a]pyrrolo [3,4-d]-**pyrimidine**-5,8-dione; 6-Hexyl-6,7-dihydro-4-(2-oxo-2-phenylethyl)-2-(4-chlorophenyl)-4H-pyrazolo[1,5-a]pyrrolo[3,4-d]-**pyrimidine**-5,8-dione are set forth in Table 15.

=> d 8 fd

US PAT NO: 5,324,483 [IMAGE AVAILABLE] L3: 8 of 8
DATE FILED: Feb. 2, 1993

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ALL L# QUERIES AND ANSWER SETS ARE DELETED AT LOGOFF
LOGOFF? (Y)/N/HOLD:y

U.S. Patent & Trademark Office LOGOFF AT 11:17:00 ON 03 MAY 1998